1/6/2021

The following are responses from Snake River Oil and Gas (SROG) to EPA's 10/29/2020 follow-up questions regarding SROG's 8/21/2020 response and EPA 6/10/2020 comment letter. The actual text of the EPA 10/29/2020 questions are shown in blue font, followed by SROG's response in red. Attached for reference as Attachment A is the 20201029 EPA Response to SROG.

Regarding depth correlations to the lower confining zone

1. Based on the regional faulting and stratigraphic dip across the Western Snake River Plain, it seems improbable that specific claystones seen in the Ore Ida well correlate with the lower confining zones below the bottom of the DJS 2-14 wellbore. Nearby wellbores, including ML 1-11, provide evidence of claystones between Willow Sands, but local unconformities may exist across faults. Please identify a lower claystone seal existing below the proposed injection zone that is competent and continuous across Fault Block E. Also, please indicate the depth of this lower confining zone as it occurs across the field. (This information will be needed for the next question, too).

   The lower claystone seal existing immediately below the proposed injection zone is the 6/7 Claystone. The 6/7 Claystone is both competent and continuous across Fault Block E. The evidence supporting this two-part statement is discussed here, and in exhibits in Attachment D.

   The convention adopted in naming the main sands in this area is by numbering them from the shallowest (youngest) as 1, and sequentially as 2,3, etc. for the deeper (older) sands. The intervening claystones are named by the bounding sands above and below. For example, the 6/7 Claystone is found below Sand 6 and above Sand 7. It is important to remember that the sands are deltaic "pulses" of sand that were deposited out into a large lake setting. As the basin filled with sediment, the ancestral rivers would change course periodically and lake level would fluctuate, resulting in varying the amount of sand input into a particular location within the lake. In the intervening periods of "no sand deposition" as the depocenter was elsewhere, the quiet water claystone deposition would prevail. In fact, the claystones represent the dominant form of sedimentation in the basin, which are widespread, very laterally extensive clays and tuffs (ashfalls) that degrade into clays. This cyclic pattern of deposition creates a layered stratigraphy of alternating sands and widespread claystones.

   Competency of Lower Confining Zone:

   Attachment D, Slide 1 shows an index map of the Willow Field area, with the fault blocks annotated by letters and all of the wells drilled to date. Stars indicate wells that will be in cross-sections displayed on subsequent slides. The 6/7 Claystone is widespread, continuous, found in all the fault blocks throughout this area, and present in every well drilled deep enough to see the interval.

   In ***Attachment D, Slide 2***, an ELAN log from the ML 1-11 well is presented showing the 6/7 Claystone, the widespread confining zone immediately underlying the proposed injection zone. The ELAN Log is a processed petrophysical log, which incorporates multiple physical parameters measured in the wellbore and produces a petrophysical interpretation. This ELAN computer analysis is all done by a "3rd party" independent company, Schlumberger, which is a world technology leader in acquiring and analyzing well log data. This analysis was done in September of 2014, shortly after the well was drilled and logged.

The left side of Slide 2 is the ELAN Log over the 6/7 Claystone interval with the log "footer" appended at the bottom, the right side shows the log "footer" and has the description of the information presented in each of the 8 "tracks", or vertical columns of the ELAN Log. Track 1 on the left shows measured depth in feet RKB. Claystone 6/7 is annotated and found from 4930' to 5060' MD, approximately 130' thick. Track 2 shows the spectral Gamma Ray (GR) data, track 3 contains the resistivity induction data with 5 different depths of investigation (DI) of 10", 20", 30", 60" and 90". These data were obtained from the RT Scanner tool, which measures resistivity both vertically and horizontally in the wellbore.

Track 4 displays the porosity values independently derived by sonic, neutron, and density tools. Note that in the Sand zones the Neutron (blue) and Density (red) porosity curves are typically reading the same values and the curves overlay each other. However, in the claystone sections, the Neutron porosity values typically read double the Density porosity values. This is due to the claystone sections being lower porosity, which the density tool accurately reads, but the neutron tool measures the presence of Hydrogen, which is found in great abundance as bound water in the clays making up the claystones.

Track 5 is important, it shows what the mineral composition is of each layer. Note that the 6/7 Claystone zone is dominantly Illite (Clay) and associated bound water, with minor calcium feldpar.

Track 7 demonstrates that the water present in the 6/7 Claystone is not mobile, meaning that it is either bound in clay molecules or irreducible (not mobile). Track 8 is horizontal permeability to water and gas. Note that the entire 6/7 Claystone interval has less than 0.1 millidarcies (md) of permeability. The actual intrinsic permeability calculated over the claystone ranges from 0.0002 to 0.0007 md on average, from a review of the foot by foot calculations. This track display is scaled from 0.1 to 1000 md, to better display the permeabilities of the zones of commercial interest in the sands.

Summarizing these data, The 6/7 Claystone interval represents an excellent confining layer below the proposed injection zone. The zone is thick (130'), dominantly composed of illite clays and extremely impermeable to fluids transmission.

Attachment D, Slide 3 is a similar presentation of the ELAN log, however this shows another lower confining zone, the 8/9 Claystone found below the 6/7 Claystone. The track display is as shown on slide 2. Note the 8/9 Claystone is marked and found from 5260' to 5452' MD. This zone has a thickness of 192'. A review of the foot by foot calculations shows intrinsic permeability values averaging from 0.000002 to 0.000005 millidarcies. The 8/9 Claystone provides another very widespread, competent redundant confining zone below the 6/7 Claystone layer, and below the proposed injection interval.

Attachment D, Slide 4 is a display comparing the typical quad combo log presentation to the processed ELAN log. This exhibit is shown as the majority of the area wells have quad combo logs only and have not had ELAN logs calculated for them. The slide also shows the cyclic depositional nature of the sands and intervening claystones.

Note that the sands are colored yellow and numbered, the claystones are gray. The sands are characterized by lower gamma-ray readings, higher resistivities, and neutron /density porosity values that track each other well, both reading 20 to 25% typically.

The Claystones are characterized by higher gamma-ray readings, low resistivities in the 1 to 3 ohm range, and neutron and density porosity values that are highly discordant. Regarding the Quad Combo log footer (Oval highlights in lower right part of the left log display) the scale shows the porosity values are 0 % on the right, to 0.6 (60%) on the left. There are 10 divisions and each represents 6 porosity units. The Density porosity values are the red curve, the neutron porosity curve is blue. Focusing on the 8/9 Claystone interval immediately above the footer (5260' to 5450'), the Neutron values (blue) are reading 5 to 6 divisions or about 30-36%, the density values (red) are 2 divisions or around 12%. As discussed above, the Neutron log infers porosity by measuring the presence of Hydrogen molecules, and is therefore wildly optimistic about porosity values due to the significant presence of bound and trapped water in the claystones. This phenomenon of divergence of the density and neutron curves provides a useful tool to identify the claystone intervals.

<u>Continuity of Lower Confining Zone:</u>

Attachment D, Slide 5 is a stratigraphic cross-section between the ML 1-11 well and the DJS 2-14 well. The logs are hung on a datum at the top of Sand 3. Stratigraphic cross-sections are useful to show the correlations between stratigraphic units as they were deposited. Note that all the sands and claystones correlate very well, even as the wells are 3352' apart. The DJS 2-14 well reached total depth just at the top of the 6/7 Claystone at 5500' TD. The 6/7 Claystone is just below TD, as it is present in every well in the field area that drilled deep enough to penetrate the interval. This is shown on subsequent slides.

Attachment D, Slide 6 is the same stratigraphic cross-section as slide 5, but here the deeper stratigraphy below TD of the well is shown as inferred from the neighboring wells. Again, the 6/7 Claystone is found in all wells in the Willow Field area drilled deep enough to penetrate the interval. This is established by wells surrounding the DJS 2-14 to the north, west, south and east as will be shown on subsequent cross sections.

Attachment D, Slide 7 is the same stratigraphic cross-section but with the ML 3-10 well added on the right side. The ML 3-10 reaches TD in Sand 7, and is 6658' west northwest of the DJS 2-14. Note that the 6/7 Claystone is approximately 120' thick in the ML 3-10 well which is in fault block A, the fault block bounding fault block E on the south.

Attachment D, Slide 8 is a structural cross-section between the ML 1-11 and DJS 2-14 wells. The following slide 9 extends this cross section to the south.

Attachment D, Slide 9 is the same structural cross-section but extended to the south and including the DJS 1-14 well on the left. The section runs from north to south, encompassing fault blocks B (left) to Fault block E (center) to Fault Block A (left). Note that the sands and claystones generally thin to the south, but that each of the individual units is present where expected to be stratigraphically and structurally. The overall and relatively uniform thinning of stratigraphic units away from a deltaic depocenter is a typical phenomenon seen in deltaic settings.

Attachment D, Slide 10 is a stratigraphic cross-section running west to east from the Willow Field to a well 3.74 miles to the east, The Reins #2 well. The section shows generalized thinning to the east away from the depocenter of the delta. All of the sands and intervening claystones are present. In the Reins well the 6/7 Claystone is approximately 150' thick.

Attachment D, Slide 11 is another stratigraphic cross-section, this one including the deepest well in the field, the ML 1-10. The 6/7 Claystone is approximately 150' thick in the ML 1-10. Note the excellent correlations between the 2 wells, proving the widespread and continuous nature of the claystones in this area.

Below is a table indicating the depth of the lower confining layer, the 6/7 Claystone, as it occurs in the Willow Field area wells:

Depth of Lower Confining Zone Occurrence in Willow Field
(Measured Depth in feet)

	6/7 Claystone		
Well Name	**Top**	**Base**	**Comments**
ML 1-3	5280	5460	
ML 2-3	NDE		Well TD's in Sand 3
Kauf. 1-9	5230	5330	
ML 1-10	4800	4955	
ML 2-10	NDE		Well TD's in Sand 6
ML 3-10	4850	4955	
ML 1-11	4930	5060	
DJS 2-14	5505	5595	Estimated, well TD's at top of 6/7 Claystone
DJS 1-14	5900	5950	
DJS 1-15	6050	6105	

The 6/7 Claystone is both a competent and continuous confining zone immediately below the proposed injection zone of Willow Sands 3 through 6. Slides 2 through 4 document the competency of the lower confining zone and show that this thick claystone interval has extremely low permeability. The .las file can be provided with the foot by foot calculations demonstrating typical perms less than a microdarcy in the zone.

Slides 5 through 11 show cross-sections demonstrating that the 6/7 Claystone is widespread and continuous. It is present in all the wells drilled in the area deep enough to have penetrated the section. Cross-sections have been presented showing the widespread, continuous nature of the claystones in this area. The 6/7 Claystone has been demonstrated in these cross-sections to exist to the north, west, south and east of the proposed injection well, DJS 2-14. Additionally, the 8/9 Claystone is demonstrated to be a thick, competent and continuous redundant bottom seal lying below the 6/7 Claystone.

Clarifying Depth to Injection Interval

2. Based on review of the permit application and associated aquifer exemption, it is unclear whether Willow Sands 1 and 2 are in contact with sands 3-5 within Fault Block E. This adds confusion to where the top of the injection zone occurs throughout the proposed zone. For example, throughout the application, some figures refer to the bottom of the claystone (presumably, in contact with Willow Sand 1), while other refer to the top of Willow Sand 3. Please clarify by clearly identifying the top and bottom of the Willow Sands injection reservoir at points of contact with upper and lower confining intervals. EPA recommends that you complete the following table to address any confusion.

Attachment D, Slides 12 & 13 will hopefully address any confusion. ***Slide 12*** shows a north to south structural cross-section of the proposed injection area in fault block E. The proposed zones to inject produced field water back into are sands 3, 4, 5, and 6 in fault block E - identified in blue text as "Proposed Injection Zone". The immediately underlying confining zone is the 6/7 Claystone, with the 8/9 Claystone a redundant confining layer below that. The immediately overlying confining zone is the 2/3 Claystone, and above that the massive Chalk Hills Claystone section, which serves as a redundant overlying confining zone.

Attachment D, Slide 13 is the same north to south structural cross-section, but the azimuth is changed at the DJS 2-14 well and extended to the east in the downdip direction within fault block E. The index map illustrates the line of section. This slide graphically exhibits the elevations of the top and base of the proposed injection zone. The elevations are also summarized in the table below. Depths in the first column are either Measured Depth (MD) in the DJS 2-14 well, or Below Ground Level (BGL) when determined from the cross sections and 3-D seismic data.

Location and Marker within Fault Block "E"	**Depth (feet, TD)**	**Depth (Feet, subsea)**
Top of Willow Sands injection reservoir at shallowest point (Sand 3 top)	4630' BGL	- 2180'
Top of Willow Sands injection reservoir As seen in DJS 2-14 log (Sand 3 top)	4908' MD	- 2406'
Top of Willow Sands injection reservoir at deepest point (Sand 3 top)	5670' BGL	-3090
Bottom of Willow Sands injection reservoir at shallowest point (Sand 6 base)	5310' BGL	-2860'
Bottom of Willow Sands injection reservoir under DJS wellbore (Sand 6 base)	5500' MD	-2998'
Bottom of Willow Sands injection reservoir at deepest point (Sand 6 base)	6200' BGL	-3620'

Regarding Plugging and Abandonment Plan

3. The latest permit application submitted on April 16, 2020 contained a well plugging and abandonment (P&A) schematic indicating two cement plugs would be set in DJS 2-14. It also included a third-party cost estimate of $66,000 to plug and abandon the well (presumably, by the method prescribed in the P&A plan). Your August 21, 2020 response to EPA's questions indicates that the P&A plan has changed, and that now the plan calls for the entire wellbore will be filled with cement. Please clarify by submitting:
    a) The most recently prepared and signed 7520-15 form,
    b) A proposed P&A schematic that matches the work proposed on form 7520-14,
    c) A cost estimate that includes P&A procedures that match the plan and schematic.

    The method for P&A should match in all three documents.

    Additionally, please detail P&A procedures that will be put in place to ensure safe plugging of this well without a drilling rig on-site (considering possible gas accumulation).

    Please see Attachment C for a completed and signed Form 7520-19. This form was generated and attached after a discussion with Mr. Evan Osborne regarding the latest forms desired for this purpose by the EPA. Sub-attachments to this Form are: (1) a proposed P&A schematic, and (2) an updated cost estimate.

Other Comments (please respond in brief):

Regarding Surface Monitoring

4. Please propose test frequency, test duration, and maximum test pressure for static pressure tests on the flowline.

    Proposed Surface System Pressure Testing Specifics:

    A) Test Frequency: It is proposed that the pressure testing of the injection flowline occur 4 times per year (at least once every quarter), beginning with the initial commissioning of the pipeline system.

    B) Test Duration: Each pressure test will be held for a minimum of 1 hour.

    C) Maximum Test Pressure:

        a. At initial commissioning, the flowline will be pressured to 80% of the Specified Minimum Yield Strength of the flowline, subject to reduction to the test limits created by any flanges or valves involved in the system test. Initial commissioning pressure will be at least as high as the routine test pressure as specified below.
        b. Routine hydrotesting for integrity assurance will be governed by the maximum allowable wellhead injection pressure (MAWIP). The system will

be pressured to create a flowline pressure of 150% of the MAWIP at the wellhead. The wellbore will be isolated from the test pressure with a block and bleed fitting or valve configuration.
(Note: The exact numeric value of the test pressure is as of yet undefined. This pressure will be determined after completion of the DJS 2-14 well as an injector. When the well is completed, the initial step-rate test will be run to determine the exact MAWIP of the injector, as the MAWIP will be defined as being 90% of the step-rate test parting wellhead pressure. This maximum allowable wellhead operating pressure will govern the determination of all other pump discharge and line pressure limits. It should be noted that the pump will be located at the Little Willow Facility, which is approximately 270' lower, on an elevation basis than the wellhead location of the DJS 2-14. This means the hydrostatic pressure seen at the pump will always be at least approximately 120 psi higher than the pressure seen at the wellhead.)

Regarding the sands within the Glenns Ferry Formation

5. SROG's response indicated that, "The only wells in the project area that have been drilled deep enough to see the sands below the Pierce Gulch Aquifer have been oil and gas exploration wells." How large is the defined, "greater project area"?

   The expression "greater project area" as used in the context of this answer is the area shown on the map in Figure 5-1, on page 6 of the SROG responses dated 8/21/2020. The only wells drilled to 2000' of depth (which could have seen the 1500'-2000' turbidite sands interval) in this area are oil and gas exploration wells. Of those wells, the wells known to have sampled waters are indicated on the map and accompanying table (Figure 5-2). This area is approximately 80 square miles on the map.

6. Please confirm that there are no water samples available from the sand layer at approximately 1,500' TD (i.e., Turbidite sands) from locations north of DJS 2-14 (limit search to one mile).

   There are no water samples available from the Turbidite sands layer at approximately 1500' TD from locations north of the DJS #2-14 well within 1 mile.

Regarding Fault Stability and Modeling

7. Explain why input values of 300 md and a 400 ft. thick injection zone were chose. Core samples indicate different permeability values, and the injection zone could possibly be thicker than 400 feet.

   The utilization of 300 md as the estimated reservoir permeability was based on the sidewall cores in the interval 5,213' – 5,391' from the DJS 2-14 Well, which indicated permeabilities between 2500 md and 3900 md (See Attachment B for the core analysis report summary table). There are 7 cores with permeability reported and the arithmetic average of these are 3,285 md. Prior experience with nodal analysis of wells has led to the common rule of thumb that 1/10 of the sidewall core permeability is often a reasonable estimate of the effective permeability when matching actual well performance. Consequently 300 md was selected as an estimated permeability.

The thickness of 400’ was used because it appeared to be a reasonable assumption based on the planimetry data used in the Calculation of Confined Injection Zone Capacity Calculation (see Exhibit H1 on page 41 in the EPA-Underground Injection Control Permit Application No ID2D001-A, dated 4/20/2020). This shows a maximum thickness contour of 500 feet (over 113 acres). The total isopach volume in the planimetered area indicates a volume of 94,700 acre-ft, with a 0’ contour of 269 acres. The total volume divided by the 0’ contour yields an average of 352’ over the entire area. Based on these values, an estimate of 400’ was employed in the fault slip potential analysis.

The fault slip potential (FSP) software application analysis utilizes the pore pressure change at each point of the grid to determine the effect on the forces at the faults. The pore pressure change can be modeled in the software using an internal radial flow model or by manually defining the pressure change in the grid. The permeability, thickness, and the injection rate utilized created a radial flow pore pressure increase that was negligible. For this reason, the radial flow model option was not utilized in the final analysis. Instead, the reservoir pore pressure increase that was modeled was a manually input uniform 616 psi over the entire grid. This pressure increase was taken from the Calculation of Confined Injection Zone Capacity (see Exhibit H1 on page 41 in the EPA-Underground Injection Control Permit Application No ID2D001-A, dated 4/20/2020). Because the maximum expected pressure increase of 616 is the most that would have been modeled at any point in the reservoir, the constant pore pressure increase over the entire reservoir grid is the most severe pressure model for fault slip potential.

8. Why was 308 psi chosen as a modeling input?

   308 psi was included as a modeling input simply because it was 50% of the maximum planned pore pressure increase. This could have been removed from the input data file since it is superfluous and provides no additional information.

9. Exhibit 8-13 shows a table containing the inputs and variability in parameters for the Monte Carlo simulations. Exhibits 8-14 through 8-18 display fault slip analysis plots. Variability for the Maximum Horizontal Stress Gradient Appears to be 67% (45 +/- 30 degrees) in the table, but percent deviation in the plots spears to be +/- 17%. Variability for Dip of Fault Appears to be 11% (45 +/- 5 degrees) in the table, whereas the graphs show + ~ 5%. Please clarify the variabilities.

   The Maximum Horizontal Stress Direction input is 45 degrees ± 30 degrees. Since the direction can vary between 0 and 180 degrees (i.e. reciprocal bearings provide the same information for this analysis), the program displays percent deviation as 30/180, or 16.67%.
   The Dip Angles input for the faults are 45 degrees, ± 5 degrees. Since the convention in this case is that dip can vary between 0 and 90 degrees, the percent deviation displayed is 5/90 = 5.56%

Attachment A

20201029 EPA Response to SROG

10/29/2020

EPA's Response of SROG's August 21, 2020 Submittal

EPA has reviewed Snake River Oil and Gas, LLC ("SROG's") August 21, 2020 response to EPA's technical review comment letter from June 10, 2020. Thank you for providing this additional information. Upon review, many of your responses satisfactorily addressed EPA's comments. EPA has developed a list of remaining questions. This information is required to ensure agreement with 40 CFR Parts 144, 146. The first three questions likely require more detailed responses. The remaining six questions should not require lengthy response. Please contact our office if you have any questions, or request clarification.

Regarding depth correlations to the lower confining zone

1. Based on the regional faulting and stratigraphic dip across the Western Snake River Plain, it seems improbable that specific claystones seen in the Ore Ida well correlate with the lower confining zones below the bottom of the DJS 2-14 wellbore. Nearby wellbores, including ML 1-11, provide evidence of claystones between Willow Sands, but local unconformities may exist across faults. Please identify a lower claystone seal existing below the proposed injection zone that is competent and continuous across Fault Block E. Also, please indicate the depth of this lower confining zone as it occurs across the field. (This information will be needed for the next question, too).

Clarifying Depth to Injection Interval

2. Based on review of the permit application and associated aquifer exemption, it is unclear whether Willow Sands 1 and 2 are in contact with sands 3-5 within Fault Block E. This adds confusion to where the top of the injection zone occurs throughout the proposed zone. For example, throughout the application, some figures refer to the bottom of the claystone (presumably, in contact with Willow Sand 1), while other refer to the top of Willow Sand 3. Please clarify by clearly identifying the top and bottom of the Willow Sands injection reservoir at points of contact with upper and lower confining intervals. EPA recommends that you complete the following table to address any confusion.

Location and Marker within Fault Block "E"	Depth (feet, TD)	Depth (Feet, subsea)

Top of Willow Sands at shallowest point		
Top of Willow Sands seen in DJS 2-14 log		
Top of Willow Sands at deepest point		
Bottom of Willow Sands at shallowest point		
Bottom of Willow Sands under DJS wellbore		
Bottom of Willow Sands at deepest point		

Regarding Plugging and Abandonment Plan

3. The latest permit application submitted on April 16, 2020 contained a well plugging and abandonment (P&A) schematic indicating two cement plugs would be set in DJS 2-14. It also included a third-party cost estimate of $66,000 to plug and abandon the well (presumably, by the method prescribed in the P&A plan). Your August 21, 2020 response to EPA's questions indicates that the P&A plan has changed, and that now the plan calls for the entire wellbore will be filled with cement. Please clarify by submitting:
   d) The most recently prepared and signed 7520-15 form,
   e) A proposed P&A schematic that matches the work proposed on form 7520-14,
   f) A cost estimate that includes P&A procedures that match the plan and schematic.

   The method for P&A should match in all three documents.

   Additionally, please detail P&A procedures that will be put in place to ensure safe plugging of this well without a drilling rig on-site (considering possible gas accumulation).

Other Comments (please respond in brief):

Regarding Surface Monitoring

4. Please propose test frequency, test duration, and maximum test pressure

for static pressure tests on the flowline.

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7. Explain why input values of 300 md and a 400 ft. thick injection zone were chose. Core samples indicate different permeability values, and the injection zone could possibly be thicker than 400 feet.

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Attachment B

Sidewall Core Analysis Summary Table

DJS Properties #2-14

Core Lab PETROLEUM SERVICES

Alta Mesa Services LP
DJS Properties 2-14
Payette County, Idaho

Core Lab PETROLEUM SERVICES

File No. : HOU-141001
Date: September 24, 2014
Drilling Fluid: Oil Based Mud
Analyst(s): DB
Cores: Schlumberger

SIDEWALL CORE ANALYSIS

SHOT NO.	REC (in)	CQI	DEPTH (ft)	Kair (mD)*	POR (%)	Sco (%)	Stw (%)	PROB PROD	Ob (%)	Gb (%)	GAS DET	Sciw (%)	°API	LITHOLOGY	FLU
60		NR	4299.0											No Recovery	
59	1.2	A4	4300.0	8.9	19.4	0.5	84.5	(6)	0.10	2.9	2	65		Silt vshy	no
58	1.0	A3	4301.0	9.1	19.7	0.5	89.3	(6)	0.10	2.0	1	65		Silt vshy	no
57		NR	4302.0											No Recovery	
56	1.0	A3	4303.0	0.012	11.6	0.6	93.0	(6)	0.07	0.7	1			Shale	ft
55	1.2	A4	4304.0	0.013	11.5	0.6	86.8	(6)	0.07	1.4	1			Shale	ft
54		NR	4305.0											No Recovery	
53	1.1	A4	4306.0	0.015	11.3	2.4	73.8	(6)	0.27	2.7	0			Shale	ft
52	0.6	B3	4307.0	0.012	11.5	2.3	82.4	(6)	0.27	1.8	1			Shale	ft
51		NR	4308.0											No Recovery	
50	1.3	A4	4309.0	0.024	13.8	3.5	82.7	(6)	0.48	1.9	2			Shale	ft
49	1.2	A4	4310.0	0.018	11.9	2.1	76.5	(6)	0.25	2.5	2			Shale	ft
48		NR	4311.0											No Recovery	
47	0.7	B3	4312.0	0.018	11.9	0.6	86.8	(6)	0.07	1.5	1			Shale	ft
46	0.6	C3	4313.0	0.029	13.9	0.5	83.1	(6)	0.08	2.3	1			Shale	ft
45		NR	4314.0											No Recovery	
44	0.5	C2	4315.0	0.020	12.4	3.2	77.4	(6)	0.40	2.4	1			Shale	ft
43	1.1	A4	4316.0	0.011	10.9	3.4	76.3	(6)	0.37	2.2	1			Shale	ft
42		NR	4317.0											No Recovery	
41	1.3	A4	4318.0	0.015	12.6	2.6	80.2	(6)	0.33	2.2	0			Shale	ft
40	0.6	C3	4319.0	0.029	13.8	1.1	77.6	(6)	0.15	2.9	1			Shale	ft
39		NR	4320.0											No Recovery	
38	0.9	A3	4321.0	0.021	12.4	0.7	85.5	(6)	0.09	1.7	1			Shale	ft
37	0.9	B3	4322.0	0.019	11.6	0.8	73.7	(6)	0.10	2.9	0			Shale	ft
36		NR	4323.0											No Recovery	
35	1.0	A3	4324.0	0.026	12.6	0.8	83.8	(6)	0.10	1.9	0			Shale calc lam(1)	ft min
34	1.0	A3	4325.0	0.040	14.4	0.6	80.8	(6)	0.09	2.7	1			Shale	ft
33	0.8	B3	4326.0	0.017	11.0	1.0	70.1	(6)	0.11	3.2	0			Shale	ft
32	1.1	A4	4327.0	0.017	11.4	0.7	77.8	(6)	0.08	2.4	0			Shale	ft

Alta Mesa Services LP
DJS Properties 2-14
Payette County, Idaho

Core Lab
PETROLEUM SERVICES

File No. : HOU-141001
Date: September 24, 2014
Drilling Fluid: Oil Based Mud
Analyst(s): DB
Cores: Schlumberger

SIDEWALL CORE ANALYSIS

SHOT NO.	REC (in)	CQI	DEPTH (ft)	Kair (mD)*	POR (%)	Sco (%)	Stw (%)	PROB PROD	Ob (%)	Gb (%)	GAS DET	Sciw (%)	°API	LITHOLOGY	FLU
31	0.9	A3	4328.0	0.023	11.8	0.7	77.8	(6)	0.08	2.5	1			Shale	ft
30	0.7	B3	4329.0	0.027	11.5	0.7	72.6	(6)	0.08	3.1	0			Shale	ft
29	0.9	A3	4330.0	0.016	12.1	0.8	75.3	(6)	0.10	2.9	1			Shale	ft
28	1.2	A4	4331.0	0.024	13.3	1.6	87.4	(6)	0.22	1.5	0			Shale	ft
27	0.9	A3	4332.0	0.038	14.6	0.5	83.1	(6)	0.08	2.4	1			Shale	ft
26	1.1	A4	4333.0	9.2	19.7	0.6	87.5	(6)	0.12	2.4	1	65		Silt vshy	no
25	0.3	D2	4334.0	0.033	13.0	0.8	83.8	(6)	0.10	2.0	2			Shale	no
24	0.6	C3	4335.0	0.033	13.5	0.7	71.2	(6)	0.09	3.8	0			Shale	no
23	0.9	A3	4336.0	0.026	12.1	0.7	78.9	(6)	0.08	2.5	1			Shale	no
22	0.5	C2	4337.0	0.021	12.3	3.3	83.6	(6)	0.40	1.6	0			Shale	ft
21	0.5	C2	4338.0	0.010	11.7	0.7	77.8	(6)	0.08	2.5	1			Shale	no
20	0.9	A3	4339.0	0.036	13.4	0.6	76.1	(6)	0.08	3.1	0			Shale	ft
19	0.3	D2	4340.0	0.039	13.8	0.6	80.8	(6)	0.09	2.6	1			Shale	ft
18		NR	4341.0								0			No Recovery	
17	0.7	B3	4342.0	0.028	11.7	0.7	84.7	(6)	0.09	1.7	1			Shale	no
16	0.4	D2	4343.0	0.031	13.4	4.3	74.4	(6)	0.57	2.9	1			Shale	ft
15	0.5	C2	4344.0	0.013	10.9	0.9	80.6	(6)	0.10	2.0	1			Shale	no
14	0.6	B3	4345.0	0.011	11.5	0.8	76.6	(6)	0.09	2.6	0			Shale	ft
13	0.3	D2	4346.0	0.020	11.9	0.7	78.9	(6)	0.08	2.4	0			Shale	no
12	0.6	C3	4347.0	0.015	11.2	0.7	77.8	(6)	0.08	2.4	3			Shale calc lam(1)	no
11	0.7	B3	4348.0	0.025	12.1	0.7	76.3	(6)	0.08	2.8	1			Shale	no
10	0.9	A3	4349.0	0.037	13.4	0.6	75.1	(6)	0.08	3.3	1			Shale	ft
9	0.7	B3	4350.0	0.022	12.3	0.9	81.8	(6)	0.11	2.1	1			Shale	ft
8	0.5	D2	4351.0	0.010	10.3	2.8	78.7	(6)	0.29	1.9	1			Shale	ft
7	0.5	D2	4352.0	0.022	11.7	0.7	84.7	(6)	0.09	1.7	1			Shale	no
6	0.8	B3	4353.0	0.027	12.0	0.9	81.8	(6)	0.10	2.1	1			Shale calc lam(1)	no
5	0.7	B3	4354.0	0.017	11.5	0.8	73.7	(6)	0.10	2.9	1			Shale calc lam(2)	ft min
4	0.5	C2	4355.0	0.014	11.1	4.6	77.0	(6)	0.51	2.0	1			Shale	ft
3	0.5	C2	4356.0	0.013	11.2	4.5	68.5	(6)	0.51	3.0	1			Shale calc lam(1)	ft min

Page 3 of 7

Alta Mesa Services LP
DJS Properties 2-14
Payette County, Idaho

Core Lab
PETROLEUM SERVICES

File No. : HOU-141001
Date: September 24, 2014
Drilling Fluid: Oil Based Mud
Analyst(s): DB
Cores: Schlumberger

SIDEWALL CORE ANALYSIS

SHOT NO.	REC (in)	CQI	DEPTH (ft)	Kair (mD)*	POR (%)	Sco (%)	Stw (%)	PROB PROD	Ob (%)	Gb (%)	GAS DET	Sciw (%)	°API	LITHOLOGY	FLU
2	0.6	C3	4357.0	0.014	11.2	2.5	72.0	(6)	0.29	2.9	1			Shale	ft
1		NR	4358.0											No Recovery	
68	0.4	D2	5213.0	3250.0	31.7	44.0	32.1	(4)	13.92	7.6	1	34	33	Sd m-fg vsshy vsslty	b-w
67	0.5	C2	5335.0	2500.0	30.8	40.0	26.3	(4)	12.34	10.4	1	33	33	Sd fg cln sslty	b-w
66	0.9	A3	5337.0	3000.0	31.0	28.5	32.9	(4)	8.85	12.0	1	34	33	Sd f-mg cln sslty	b-w
65	0.8	B3	5337.0	3100.0	31.1	43.4	22.4	(4)	13.48	10.6	1	34	33	Sd m-fg cln sslty	b-w
64	0.5	C2	5339.0	3500.0	31.0	40.9	27.9	(4)	12.69	9.7	2	34	33	Sd mg cln	b-w
63		NR	5383.0											No Recovery	
62	1.0	A3	5387.0	3750.0	31.8	31.9	20.3	(4)	10.14	15.2	2	34	33	Sd m-cg cln	b-w
61	0.4	D2	5391.0	3900.0	32.0	31.7	19.6	(4)	10.16	15.6	2	35	33	Sd m-peb cln	b-w

• (6) denotes low permeability.

• (4) denotes contamination by drilling fluid.

• The high oil saturations measured on these cores are believed due to oil contamination from the drilling fluid. An interpretation as to probable production is not reliable when based on measured saturations from oil contaminated cores. In hydrocarbon productive zones, the log calculated water saturation should be less than the core analysis critical water saturation.

Page 4 of 7

Alta Mesa Services LP
DJS Properties 2-14
Payette County, Idaho

File No. : HOU-141001
Date: September 24, 2014
Drilling Fluid: Oil Based Mud
Analyst(s): DB
Cores: Schlumberger

DESCRIPTION CODE KEY AND ABBREVIATIONS

LITHOLOGY

Anhy	Anhydrite
Cgl	Conglomerate
Dol	Dolomite
Glauc	Glauconite
H	Halite
Lig	Lignite
Ls	Limestone
Pyr	Pyrite
Sd	Sand
Sh	Shale
Slt	Silt
Sf	Shell Fragments

FLUORESCENCE

ev	even
stk	streaks(ed)
spt	spots(ed)
mott	mottled

INTENSITY

bt	bright
ft	faint
dl	dull
vft	very faint

COLOR

b	blue
b-w	blue-white
bz	bronze
gld	gold
w	white
y	yellow

MODIFIERS

u	unconsolidated
vs	very slightly
s	slightly
m	moderately
mw	moderately well
v	very
w	well

GRAIN SIZE

vfg	very fine grain
fg	fine grain
mg	medium grain
cg	coarse grain

OTHER

calc	calcareous	ha	high angle
cln	clean	hd	hard
carb	carbonaceous	lam	laminated(ion)
cem	cementation	mic	micaceous
con	consolidated	ms	mudshot
dns	dense	shy	shaley
flu	fluorescence	slty	silty
foss	fossiliferous	tr	trace
frc	fractured(s)	vug	vuggy
fl	flushed	vt	vertical

PRODUCTION CODES

Gas	gas
Oil	oil
Cond	condensate
Water	water
(1)	altered core
(2)	exposed core
(3)	insufficient sample
(4)	contaminated core
(5)	
(6)	low permeability

OTHER ABBREVIATIONS

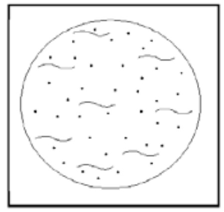
Por	porosity, %
Gb	gas saturation, % bulk volume
Ob	oil saturation, % bulk volume
Sco	core oil saturation, % pore volume
Stw	total water saturation, % pore volume
Sciw	critical water saturation, % pore volume
Vsh	volume of shale, % bulk volume
Cs	surface area (m^2/cc)
Mean	mean grain size, microns

FOOTNOTES

*	permeability values determined empirically
**	Sciw values after Granberry, R.J. and Keelan, D.K., 1977
***	samples interpreted without knowledge of depth or intervals

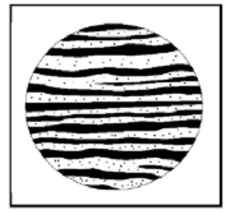
INTERLAM[sm] THIN BED SAMPLE DESCRIPTION

TYPE 1



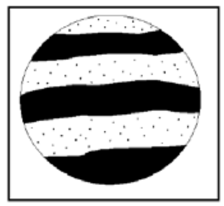
SHALE LAMINATIONS < 1 mm

TYPE 2



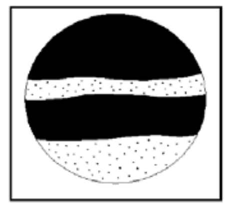
SHALE LAMINATIONS 1-5 mm

TYPE 3



SHALE LAMINATIONS 5-10 mm

TYPE 4



SHALE LAMINATIONS > 10 mm

Alta Mesa Services LP
DJS Properties 2-14
Payette County, Idaho

File No. : HOU-141001
Date: September 24, 2014
Drilling Fluid: Oil Based Mud
Analyst(s): DB
Cores: Schlumberger

SIDEWALL CORE ANALYSIS

CORE ANALYSIS PROTOCOL

Samples are inventoried upon arrival at the laboratory.

A qualitative combustible gas reading is performed on each sample.

Samples are carefully cleaned of mud and a general description is made noting lithology, grain size, visible minerals, and reactivity to 10% hydrochloric acid. The length, quality, and fluorescence of each sample is also recorded.

Porosity is calculated using the Summation of Fluids technique. A portion of the sample is place into a calibrated mercury pump to measure the bulk volume of the sample via mercury displacement. The gas bulk is measured by injecting mercury into the sample at 750 psi. The sample is placed into a retort cup with a calibrated receiving tube. The samples are retorted to 400 deg F to remove pore water and determine the water bulk. The oven temperature is increased to 1200 deg F and the oil is retorted from the sample to determine the oil bulk. The sum of the gas bulk, water bulk, and oil bulk is equal to the porosity. All mercury is recovered.

Permeability is determined empirically based upon the lithological description of the sample.

Attachment C

EPA Form 7520-19

DJS Properties #2-14

OMB No. 2040-0042 Approval Expires 4/30/2022

United States Environmental Protection Agency

EPA

WELL REWORK RECORD, PLUGGING AND ABANDONMENT PLAN, OR PLUGGING AND ABANDONMENT AFFIDAVIT

Name and Address, Phone Number and/or Email of Permittee

Snake River Oil and Gas, LLC,
117 East Calhoun St., Magnolia, AR 71753

Permit or EPA ID Number	API Number	Full Well Name
ID2D001-A	11-075-20023	DJS Properties #2-14

State	County
Idaho	Payette

Locate well in two directions from nearest lines of quarter section and drilling unit

Latitude: 44.038666 (NAD83)

Longitude: -116.783310 (NAD83)

Surface Location

NE 1/4 of NW 1/4 of Section 14 Township 8N Range 4W

95 ft. from (N/S) N Line of quarter section

2315 ft. from (E/W) W Line of quarter section.

Well Class	Timing of Action (pick one)	Type of Action (pick one)
☐ Class I	☑ Notice Prior to Work	☐ Well Rework
☑ Class II	Date Expected to Commence: Injection Permit Proposal	☑ Plugging and Abandonment
☐ Class III	☐ Report After Work	☐ Conversion to a Non-Injection Well
☐ Class V	Date Work Ended: N/A	

Provide a narrative description of the work planned to be performed, or that was performed. Use additional pages as necessary. See instructions.

1. Move in and rig up electric wireline unit and cement unit.
2. Bleed any gas accumulation in tubing or on backside to temporary flare as necessary and fill casing with water. Establish injection rate with water down tubing and then pump cement down tubing into injection perforations using 100 sacks (23 barrels) of cement, leaving cement plug #1 over the interval 5410-4870'. [Plug #1 = 5410-4870']
3. Set cast iron bridge plug (CIBP) inside 2 7/8" tbg at 4,860' and pressure test same. [Plug #2 = CIBP @ 4860']
4. Perforate tbg at 4,306' - 4308'. Sqz perfs between straddle pkrs at 4306' - 4330; 4354' - 4374' with 50 sks cmt. [Plug #3 =4306' 4374']
5. Set CIBP inside 2 7/8" tbg at 4200'. [Plug #5 = CIBP @t 4200']
6. Perforate 2 7/8" tbg at 4190'-4192. Circulate in 151 bbls cement plug from 4190' - 6' (leaving a balanced plug inside the tubing and the tubing / casing annulus). [Plug #5 = 4190' - 6']
7. Rig down cement unit and electric wireline unit and move off location. Wait on cement for 24 hrs.
8. Move in back-hoe. Nipple down 2 9 /16" wellhead tree. Dig bell hole around wellhead approximately 8' below ground surface. Move in and rig up welder. Cut windows on 14" conductor and 9 5/8" casing at 6'. Make primary cut on 9 5/8" casing, 7" casing, and 2 7/8" tubing. Remove casing head and tubing head along with the cut pieces of casing and tubing. Cut 14" conductor at 6' and remove same. Make final cuts flush on all strings. Weld on 14" steel top closure plate. Weld API Number, date, location into plate. Backfill bell hole. Restore location.

See attached proposed wellbore schematic, illustrating proposed plugged well condition.

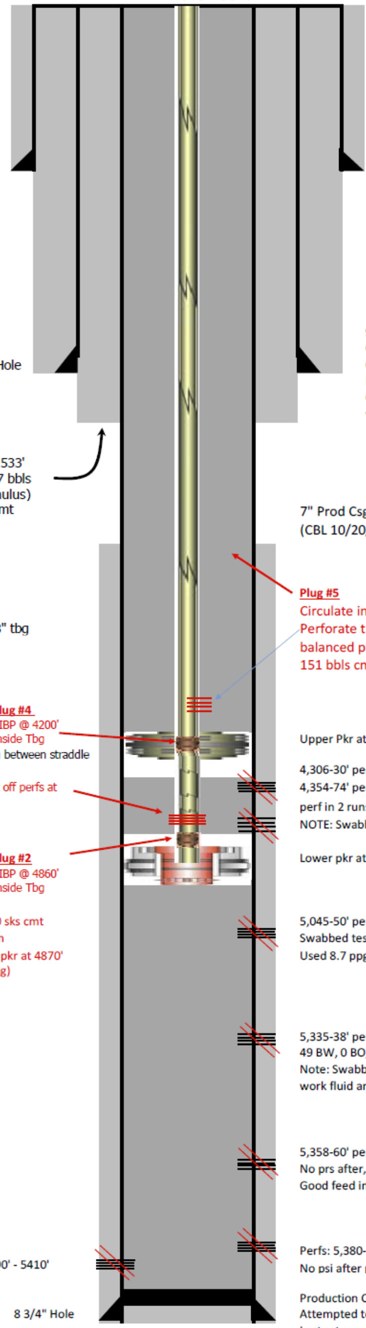
Note: all depths are based on the measurements from the drilling rig kelly bushing, as recorded by the Schlumberger Platform Express - Triple Combo Open Hole Log dated 9/18/2014.

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)

Name and Official Title (Please type or print)	Signature	Date Signed
Richard Brown, Manager	Richard Brown	1-6-2021

Snake River Oil and Gas, LLC
Willow-Hamilton Field
Well Name: DJS Properties #2-14
Payette County, ID
Proposed P&A - Post Injection
(Proposed work is shown in red)
Currently T&A'd
API# 11-075-20023



drh mod DJS 2-14 Current and Proposed WBS (Injection).xlsx
Proposed P&A

Thursday, June 25, 2020

To: Snake River Oil and Gas
117 E Calhoun
Magnolia AR 70753

Re: DJS 2-14 Plug

Below is an estimated cost and procedure summary for plugging and abandoning the DJS 2-14 disposal well based on the provided proposed P&A Wellbore Schematic. The estimated cost included is based on past well abandonments done without a rig in the Willow Field that is located in Payette County Idaho.

Procedure Summary:

1. MIRU Cement Unit, displacement tank(s), WLU.
2. Sqz off all perfs below lower pkr at 4860'. PLUG #1
3. Set CIBP at 4860' in tbg. PLUG #2
4. Perforate tbg at 4306'-08' (between straddle pkrs).
5. Sqz off perfs at 4306 - 30; 4354-74 with 50 sks cmt. PLUG #3
6. Set CIBP in tbg at 4200'. PLUG #4
7. Perf Tbg at 4190'.
8. Circulate in cmt plug from 4190' to surface. PLUG #5
9. Dig bell hole and cut tbg and casing strings. Spot cmt from 6' to surface if none present. Weld on plate to conductor. PLUG #6
10. RD MOL.

Estimated Cost Breakdown:

Cement Crews and Cement	$26,250.00
E-Log Services	$32,000.00
Vacuum Trucking Services / Welder	$8,500.00
Disposal Services / Rentals and Location Clean Up.	$2,500.00
Estimated Total Cost	$69,250.00

Please feel free to contact myself directly if you have any questions.

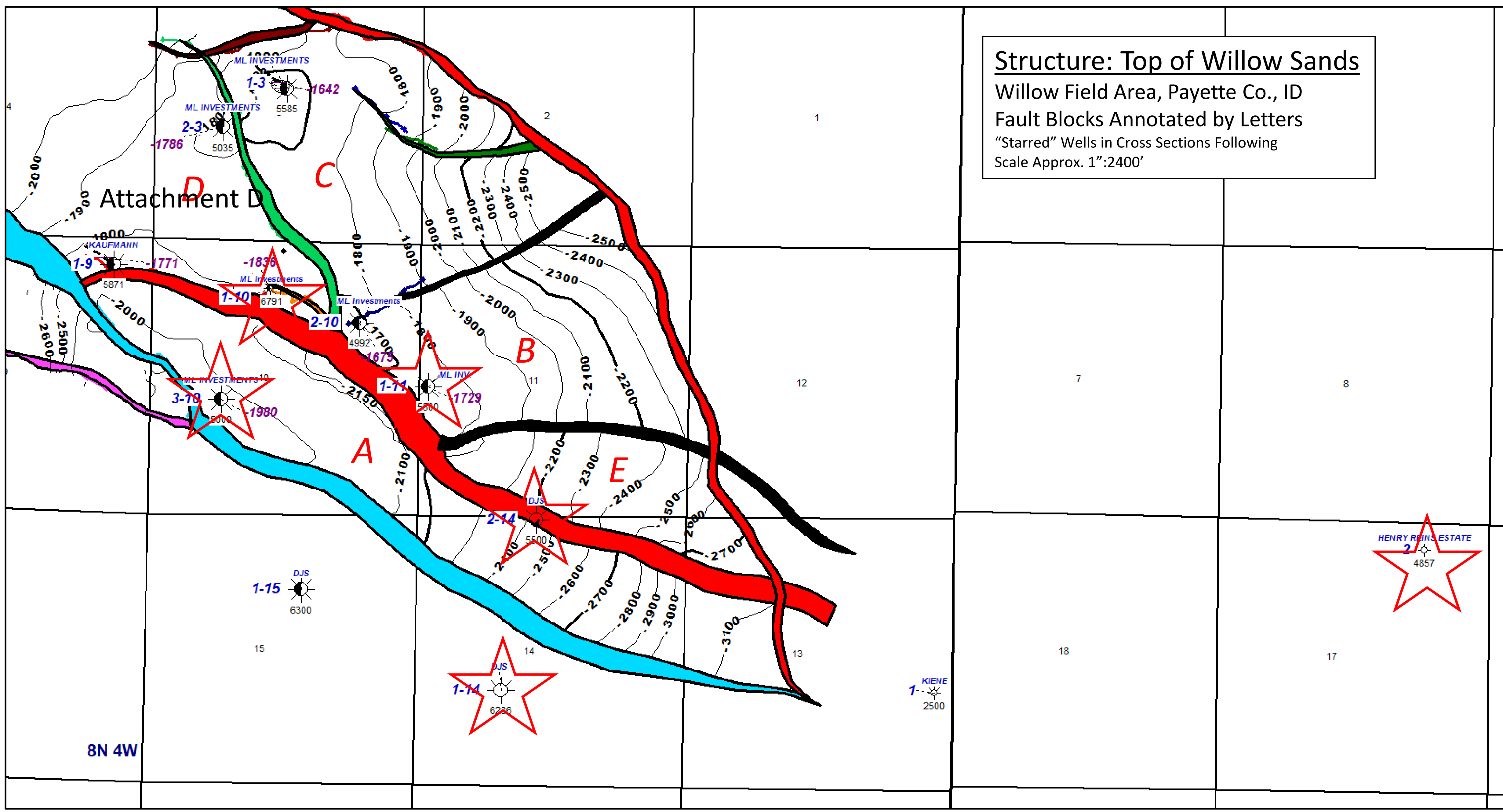
Robert Hatfield
Operations
bhatfield@htisvcs.com
www.htisvcs.com
Office 208.459.9990 | Cell 307.371.4571

Attachment D

SROG Responses to EPA Questions 1&2 of October 29, 2020

SROG Responses to EPA Questions 1 & 2 of October 29, 2020
Attachment D

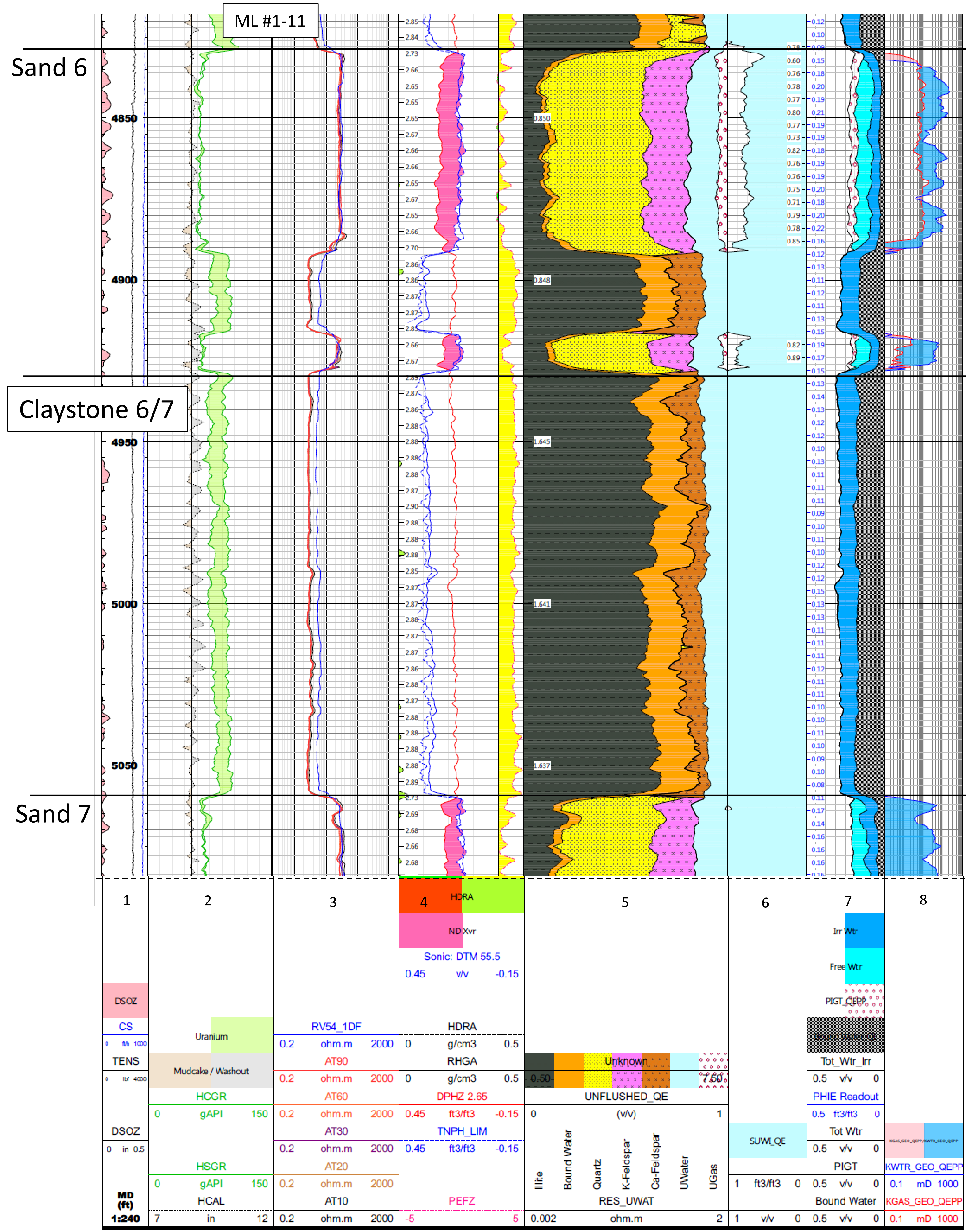
Proposed Injection Well: 1. Lower Confining Zone
2. Depth to Injection Interval

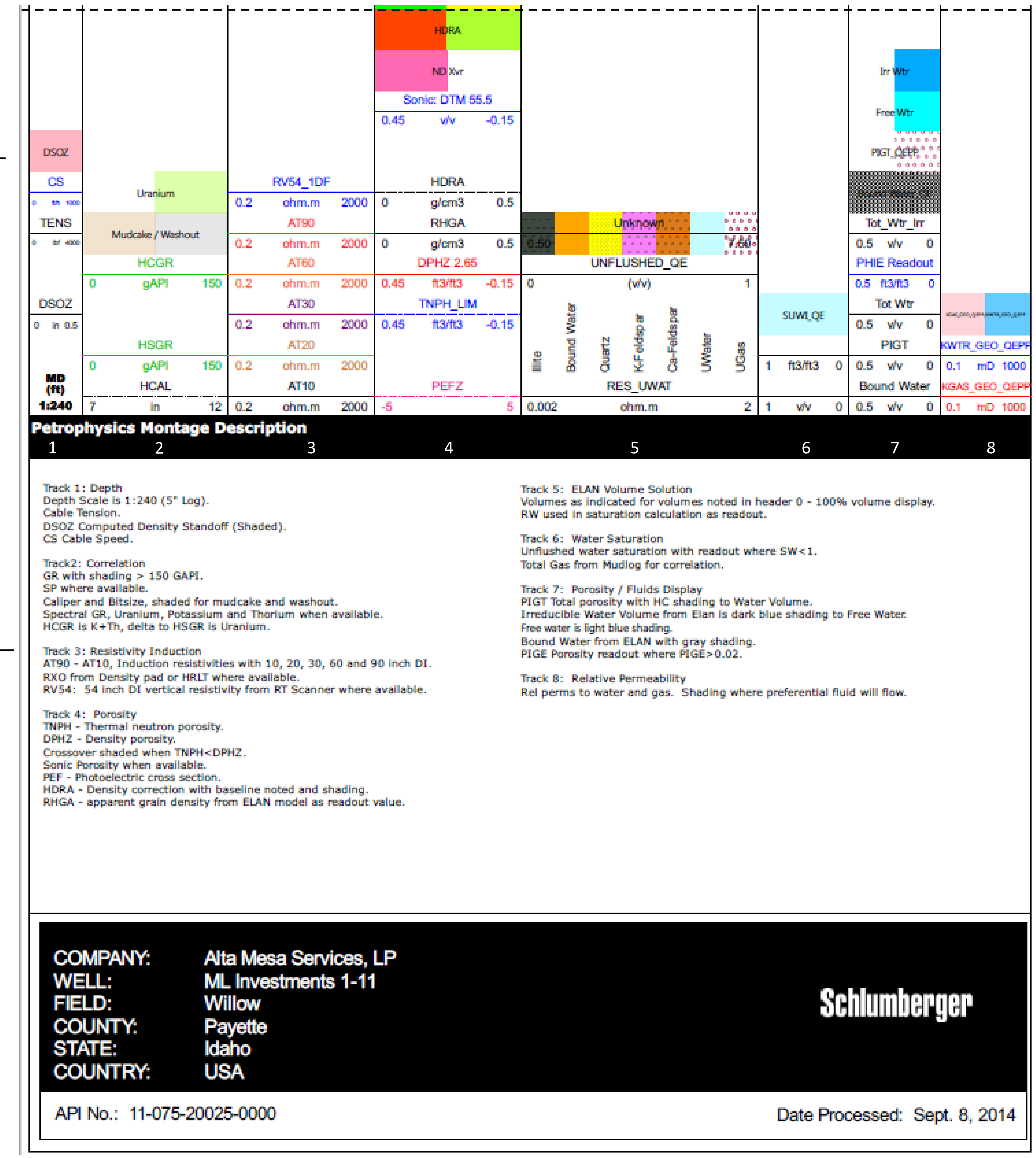


ELAN Processed Log of Claystone 6/7 Lower Confining Zone

2

The ELAN Log incorporates multiple measured physical properties from the wellbore, including spectral gamma ray, RT Scanner (vertical and horizontally focused electrical induction curves with depths of investigation from 10 to 90 Inches), as well as density, neutron and sonic derived porosity values. These inputs are used to create the petro-physical interpretation shown (left). The log for the 6/7 Claystone Zone (4930' to 5060' MD) is on the left, the right image (below) is of the log "footer" with descriptions of the data presented in each track. Note specifically track 8, which shows that the permeability of the 6/7 Claystone Zone is less than 0.1 millidarcies over the entire 130' thick 6/7 Claystone zone. Actual values calculated average 0.0002 to 0.0007 md.

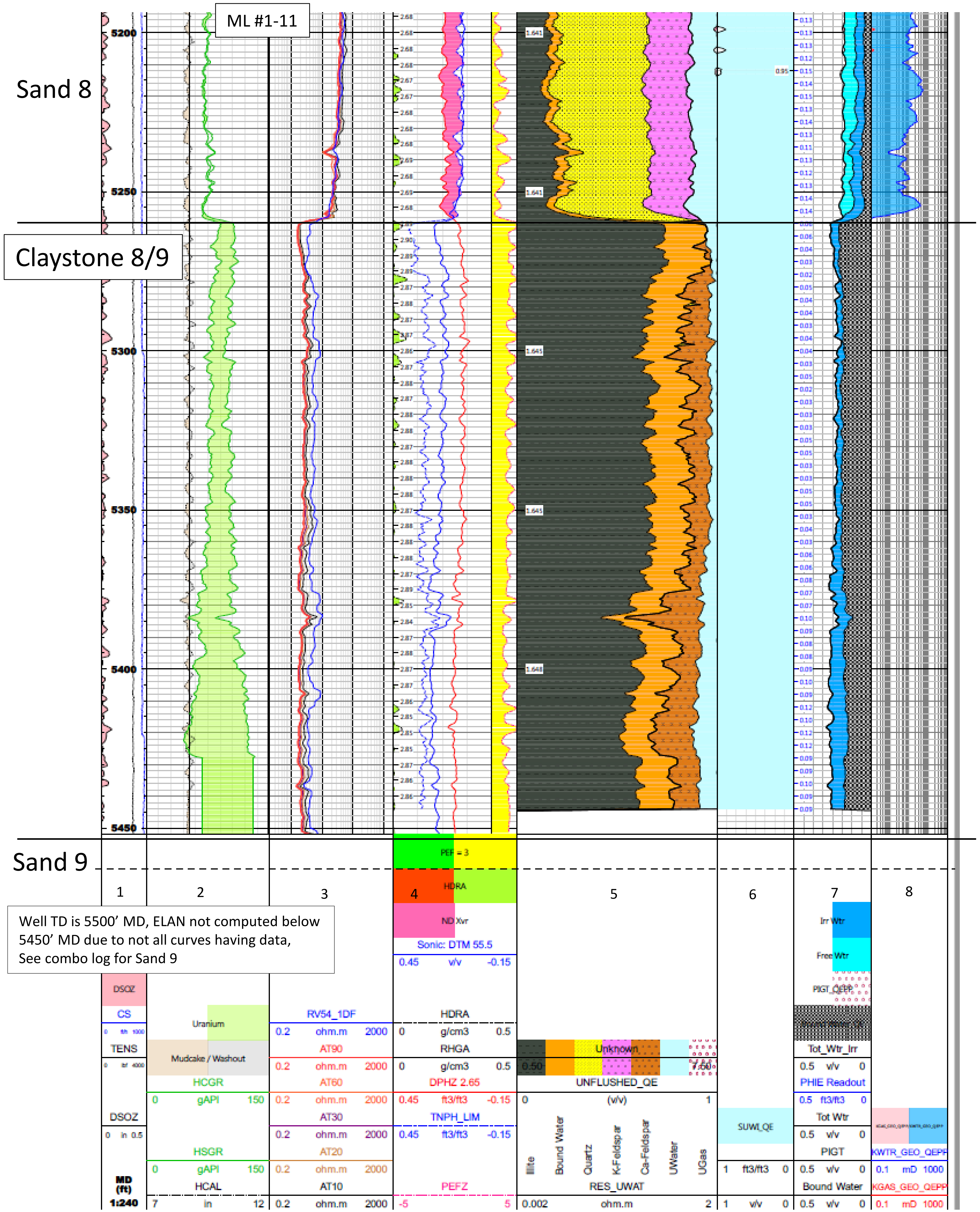


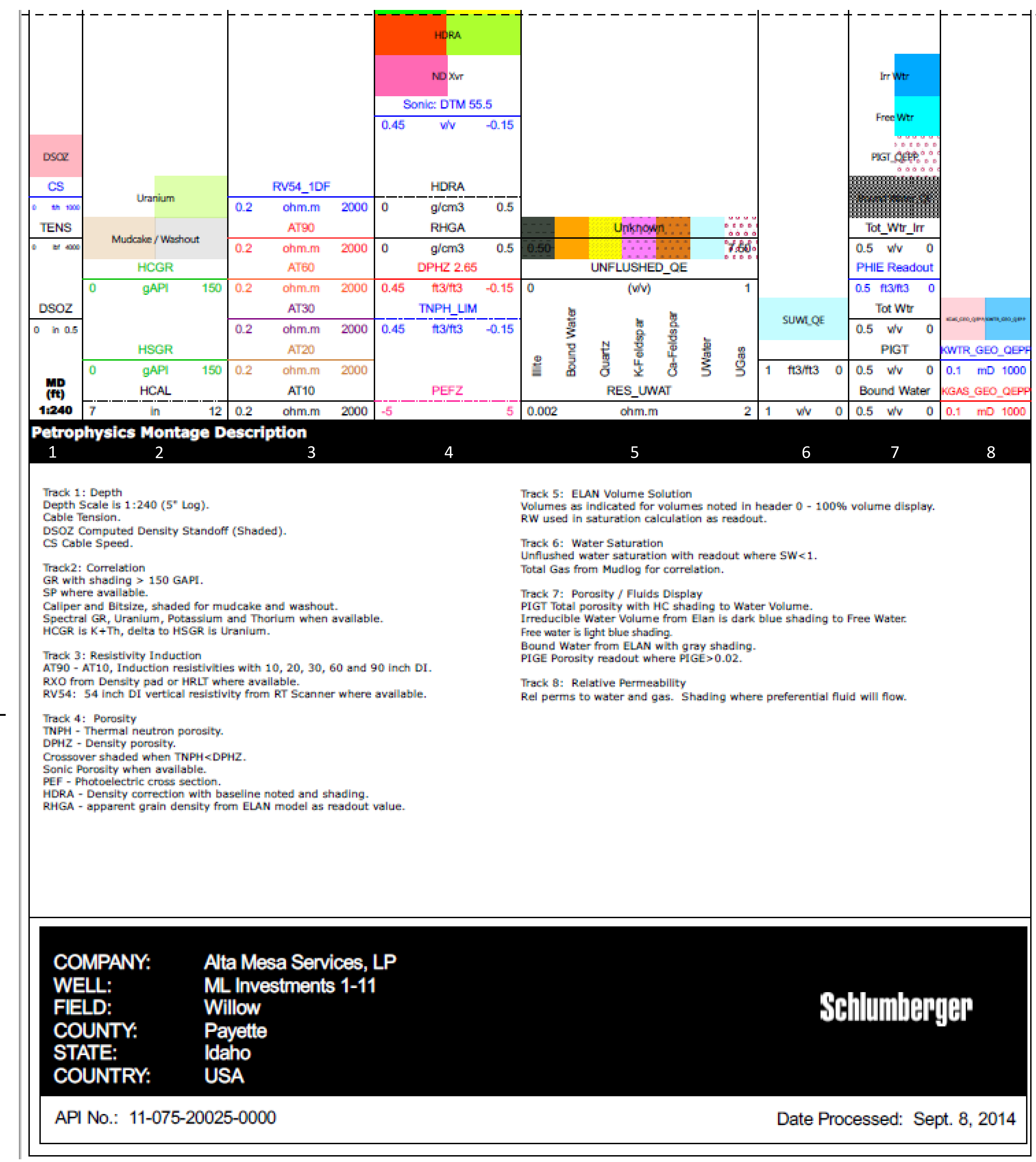


ELAN Processed Log of Claystone 8/9 Lower Confining Zone

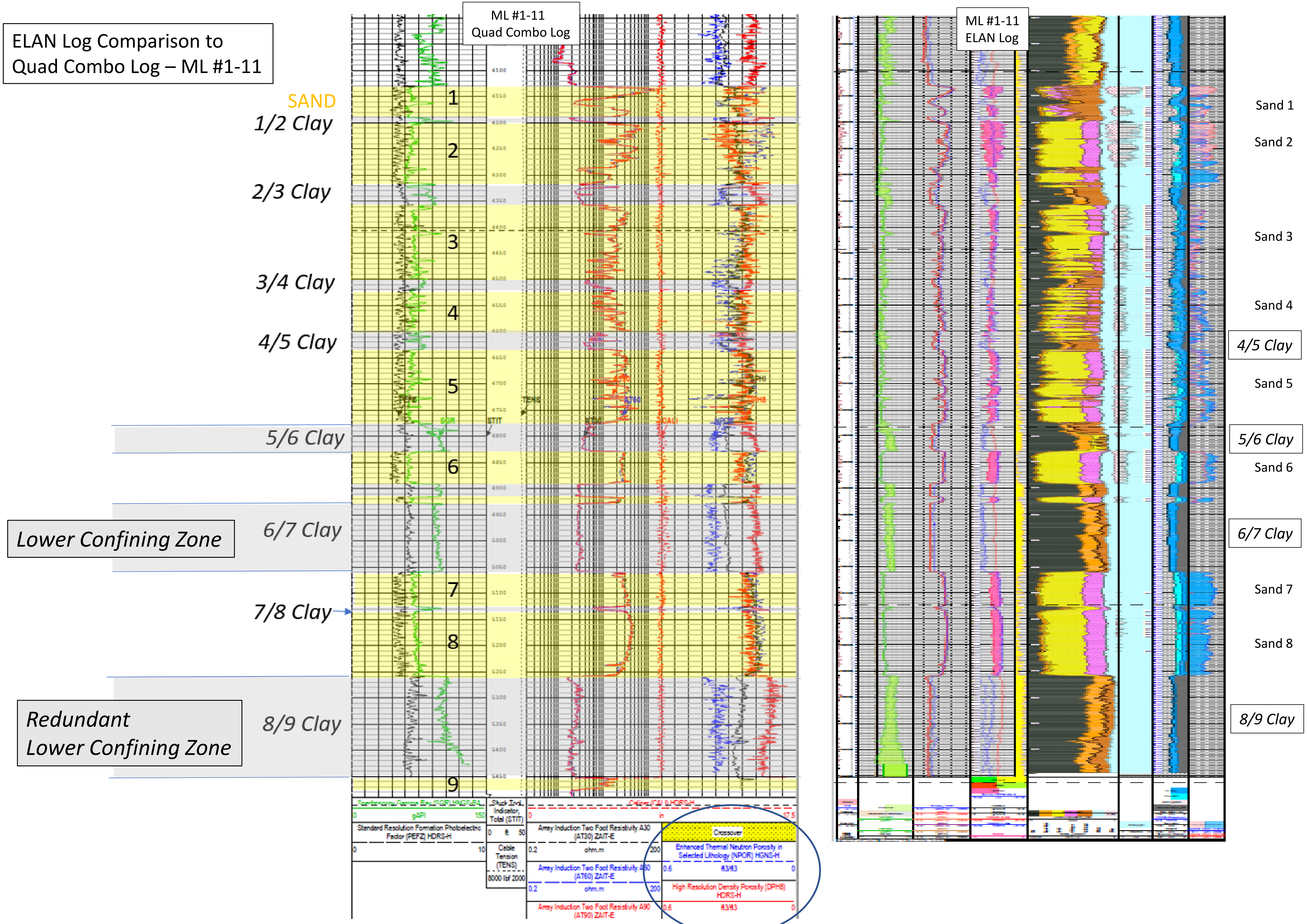
3

The ELAN Log for the 8/9 Claystone Zone is on the left (5260' to 5452' MD). The right image (below) is of the log "footer" with descriptions of the data presented in each track. As seen on the previous slide, Note specifically track 8, which shows that the Permeability of the 8/9 Claystone Zone is less than 0.1 millidarcies over the entire 192' thick claystone zone. Actual values calculated average 0.000002 to 0.000005 millidarcies.





ELAN Log Comparison to Quad Combo Log – ML #1-11



STRATIGRAPHIC CROSS-SECTION

ML #1-11 & DJS #2-14 Wells

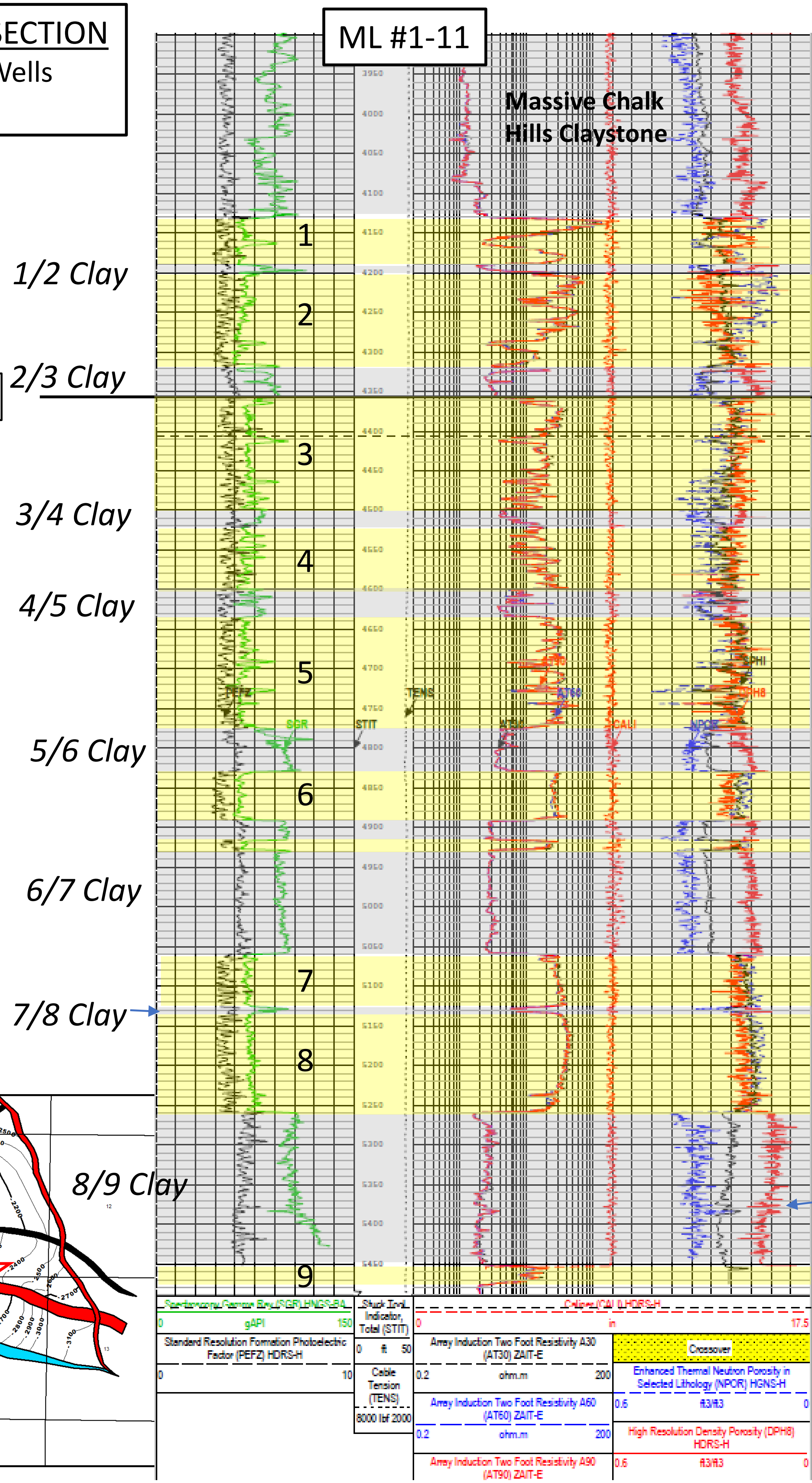
DATUM: Sand 3 top

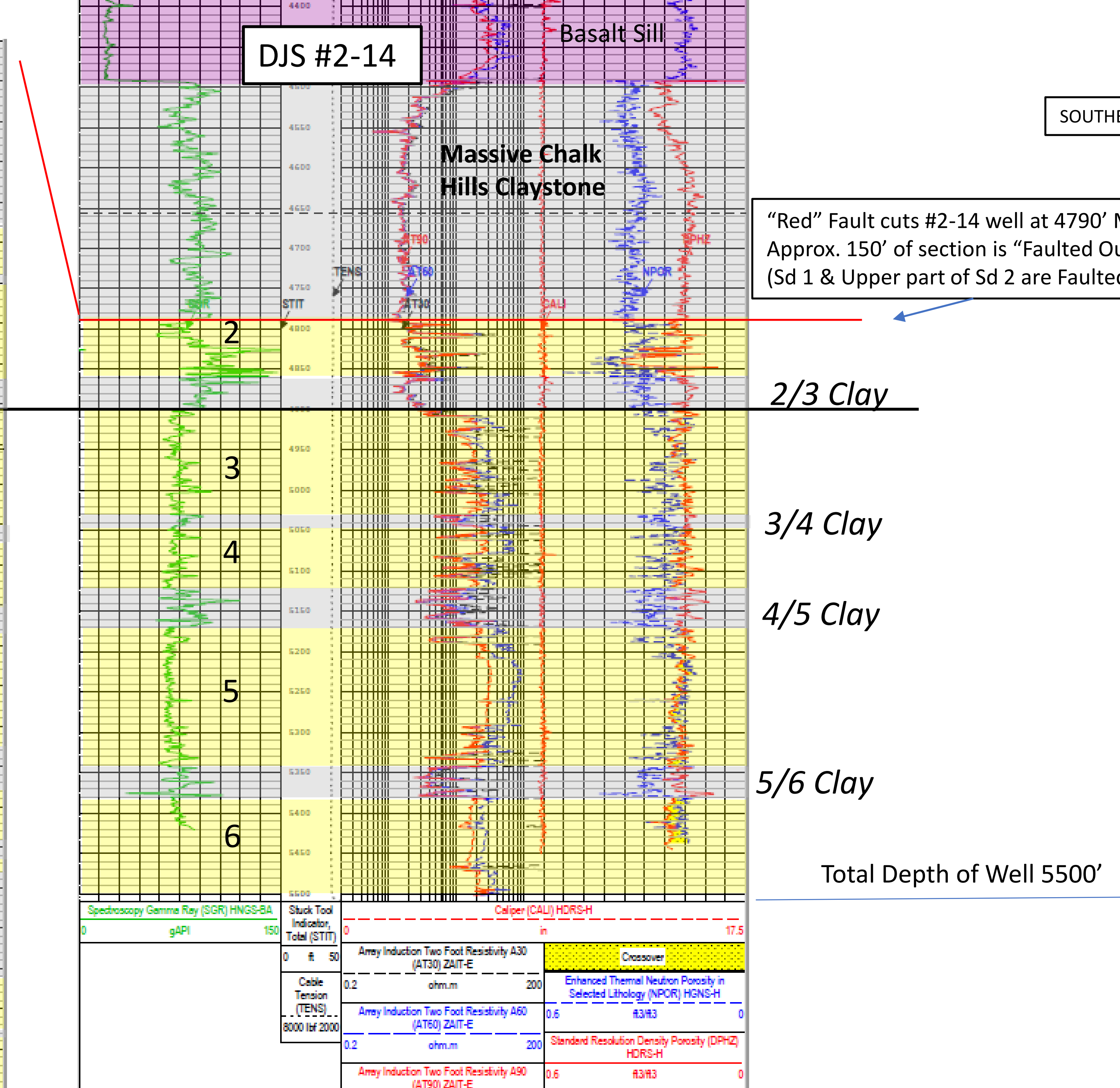
NORTHWEST

SOUTHEAST

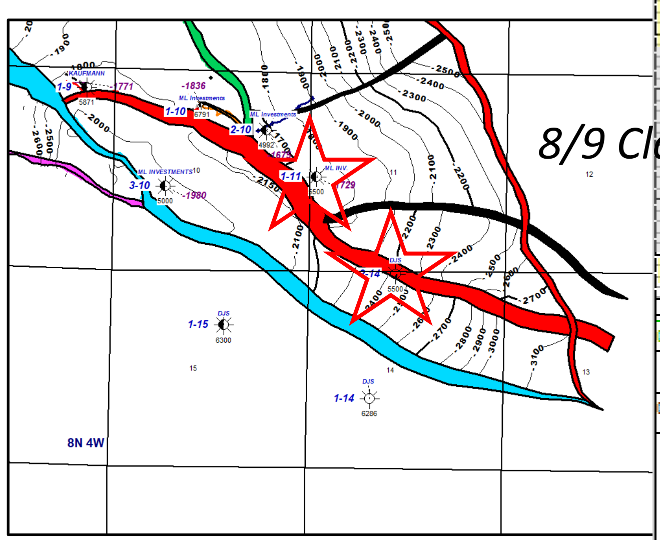
5

DATUM: Sand 3 Top





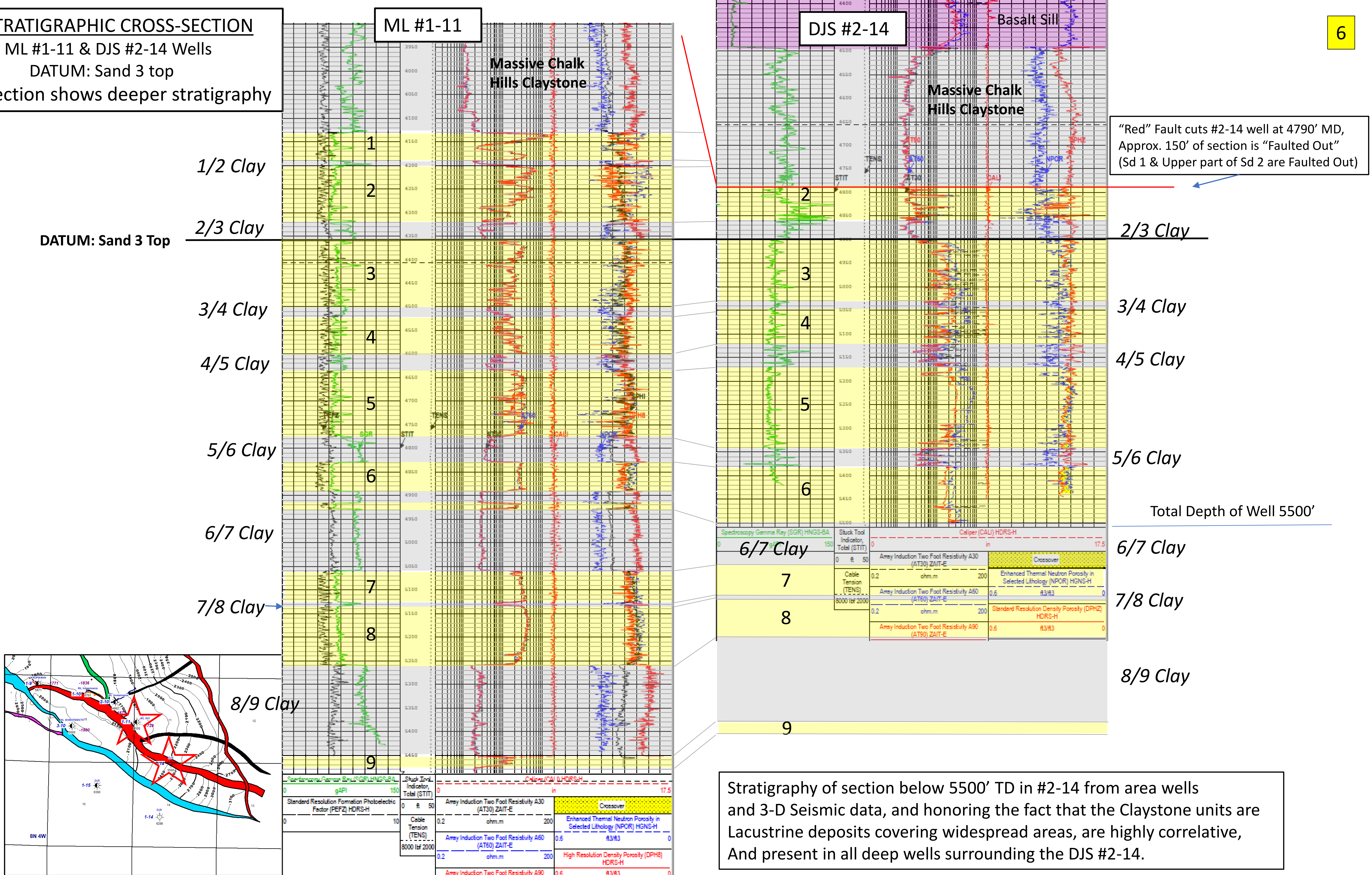
"Red" Fault cuts #2-14 well at 4790' MD, Approx. 150' of section is "Faulted Out" (Sd 1 & Upper part of Sd 2 are Faulted Out)



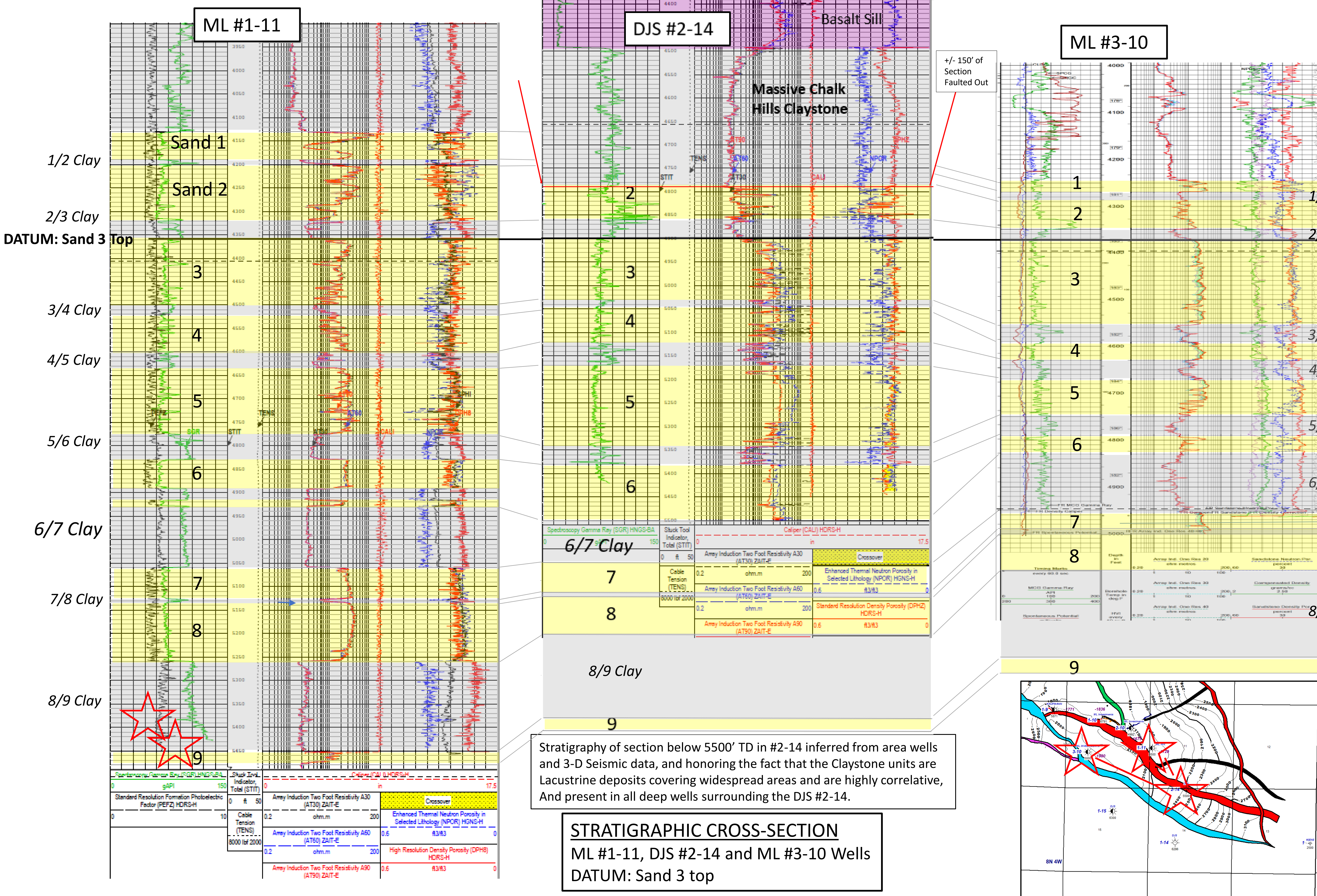
NOTES:

1. **Sands** are **YELLOW** and numbered
2. **Claystones** are **GRAY** and annotated by the bounding sands' names above & below
3. Observe that Claystones have large Neutron/Density porosity value separations, due to the large amount of bound water in the claystones, resulting in high apparent porosity of the neutron curve values (Neutron porosity values are blue curve, Density porosity curve is red)
4. As the sands are predominately clean quartz, the density and neutron porosity values tend to track each other closely in the sands
5. The 2 wells are 3352' apart

STRATIGRAPHIC CROSS-SECTION
ML #1-11 & DJS #2-14 Wells
DATUM: Sand 3 top
Section shows deeper stratigraphy

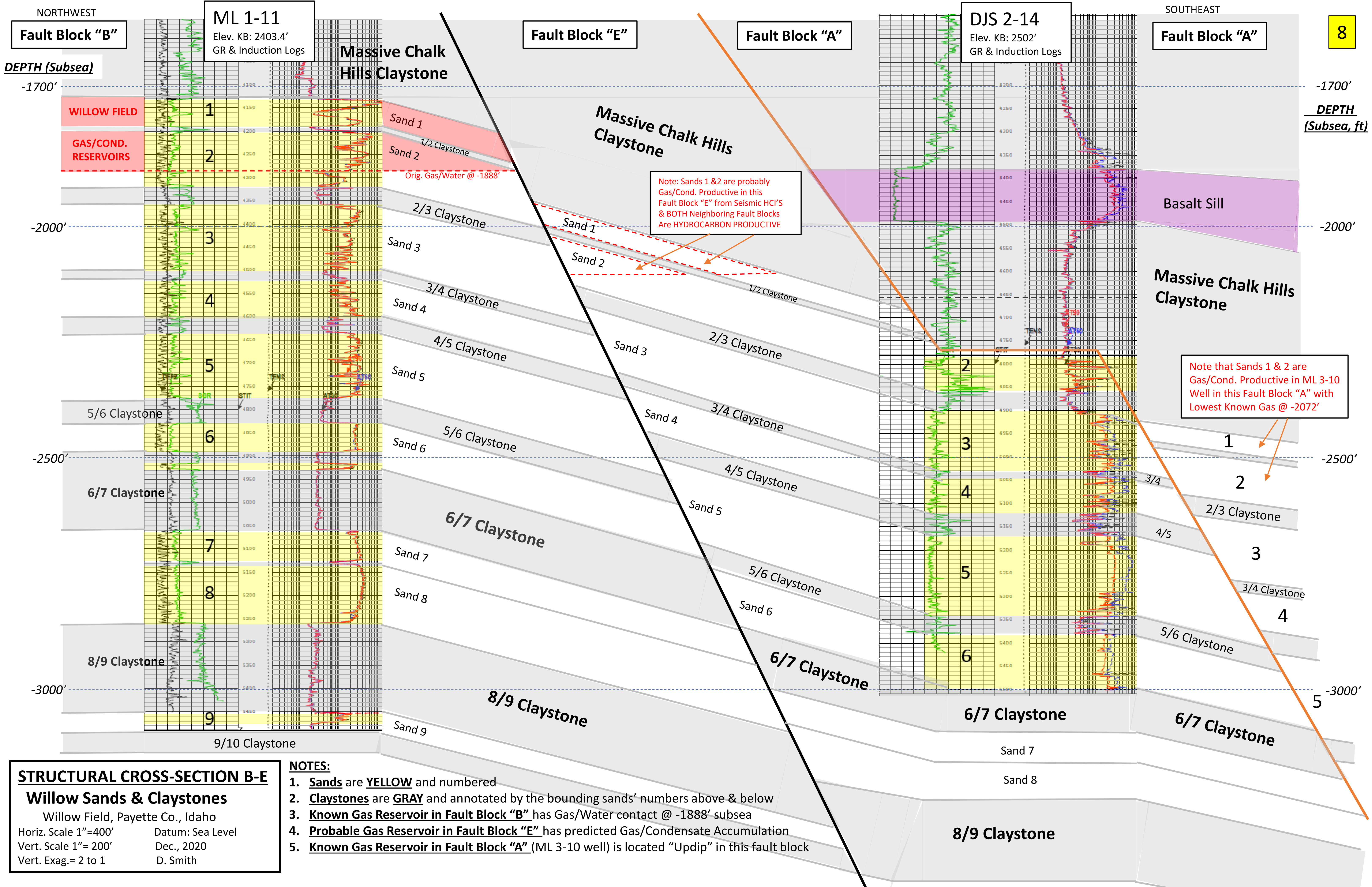


Stratigraphy of section below 5500' TD in #2-14 from area wells and 3-D Seismic data, and honoring the fact that the Claystone units are Lacustrine deposits covering widespread areas, are highly correlative, And present in all deep wells surrounding the DJS #2-14.



Stratigraphy of section below 5500' TD in #2-14 inferred from area wells and 3-D Seismic data, and honoring the fact that the Claystone units are Lacustrine deposits covering widespread areas and are highly correlative, And present in all deep wells surrounding the DJS #2-14.

STRATIGRAPHIC CROSS-SECTION
ML #1-11, DJS #2-14 and ML #3-10 Wells
DATUM: Sand 3 top



STRUCTURAL CROSS-SECTION B-E

Willow Sands & Claystones

Willow Field, Payette Co., Idaho

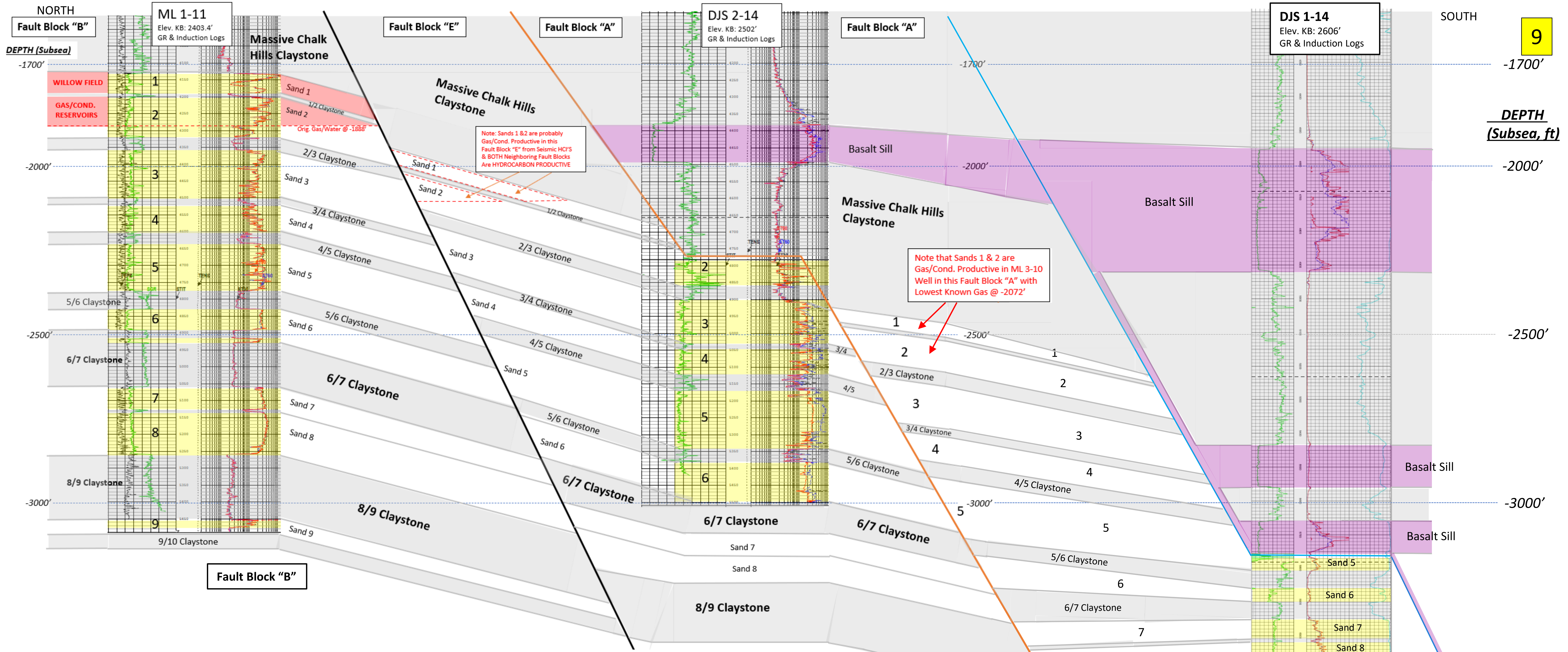
Horiz. Scale 1"=400' Datum: Sea Level

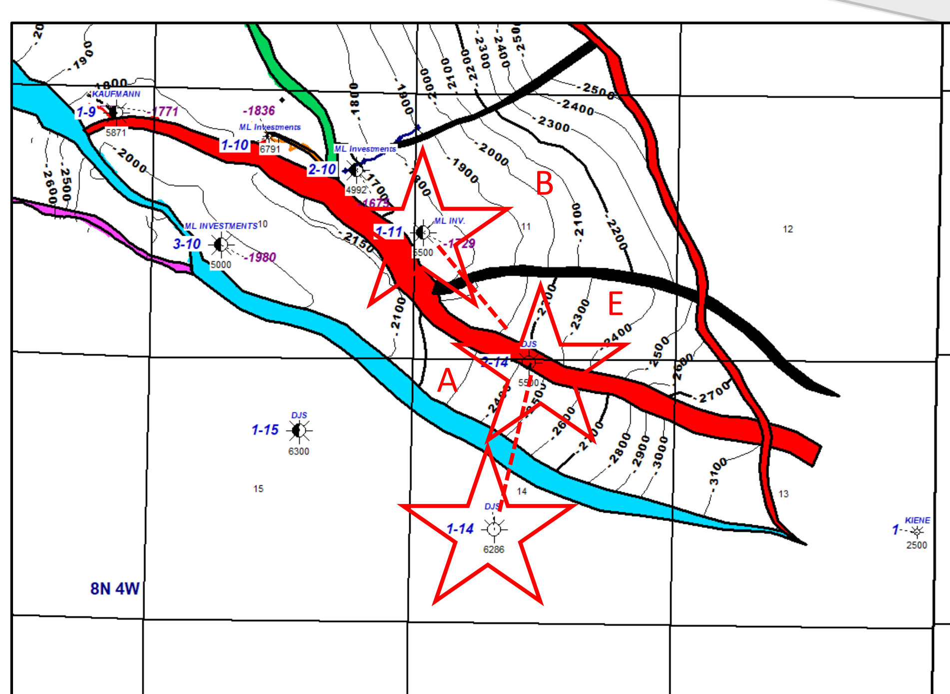
Vert. Scale 1"= 200' Dec., 2020

Vert. Exag.= 2 to 1 D. Smith

NOTES:

1. **Sands** are **YELLOW** and numbered
2. **Claystones** are **GRAY** and annotated by the bounding sands' numbers above & below
3. **Known Gas Reservoir in Fault Block "B"** has Gas/Water contact @ -1888' subsea
4. **Probable Gas Reservoir in Fault Block "E"** has predicted Gas/Condensate Accumulation
5. **Known Gas Reservoir in Fault Block "A"** (ML 3-10 well) is located "Updip" in this fault block





STRUCTURAL CROSS-SECTION B-E-A

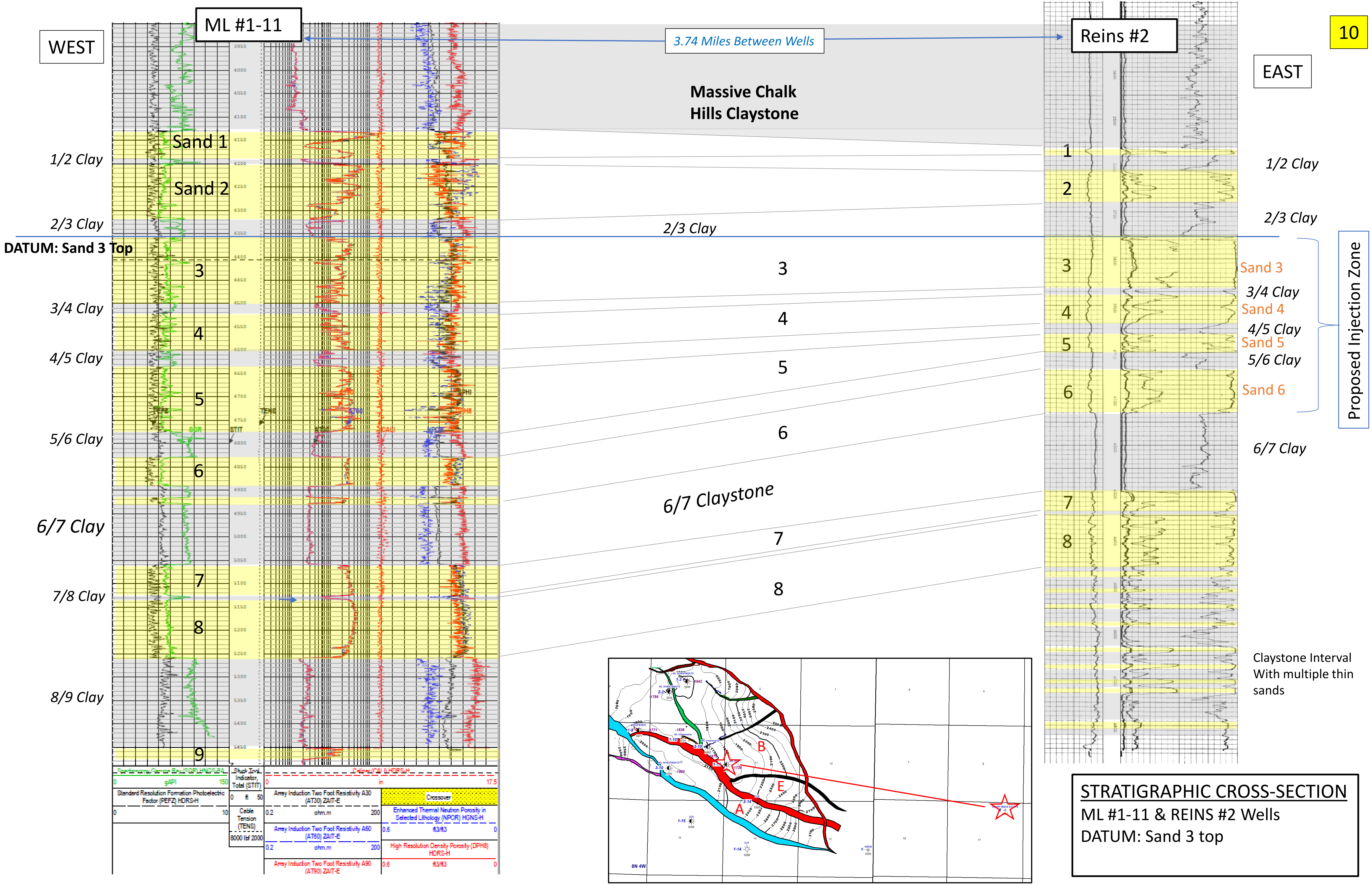
Willow Sands & Claystones

Willow Field, Payette Co., Idaho

Horiz. Scale 1"=640' Datum: Sea Level

Vert. Scale 1"= 300' Dec., 2020

Vert. Exag.= 2.2 to 1 D. Smith



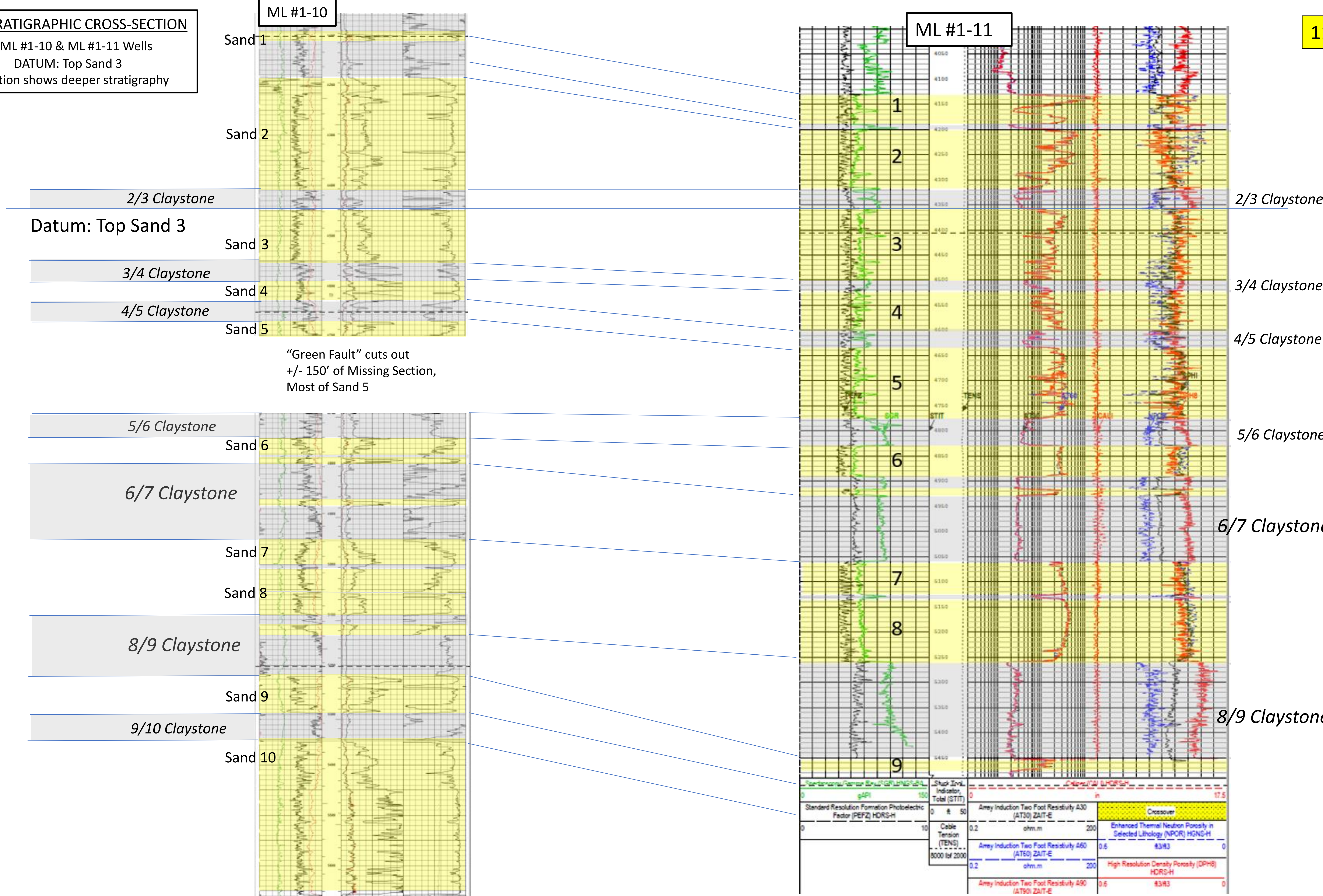
10
WEST
ML #1-11
3.74 Miles Between Wells
Reins #2
EAST
Massive Chalk
Hills Claystone
Sand 1
1/2 Clay
Sand 2
2/3 Clay
DATUM: Sand 3 Top
3
3/4 Clay
4
4/5 Clay
5
5/6 Clay
6
6/7 Clay
7
7/8 Clay
8
8/9 Clay
9
6/7 Claystone
Sand 3
3/4 Clay
Sand 4
4/5 Clay
Sand 5
5/6 Clay
Sand 6
Proposed Injection Zone
Claystone Interval
With multiple thin
sands
STRATIGRAPHIC CROSS-SECTION
ML #1-11 & REINS #2 Wells
DATUM: Sand 3 top

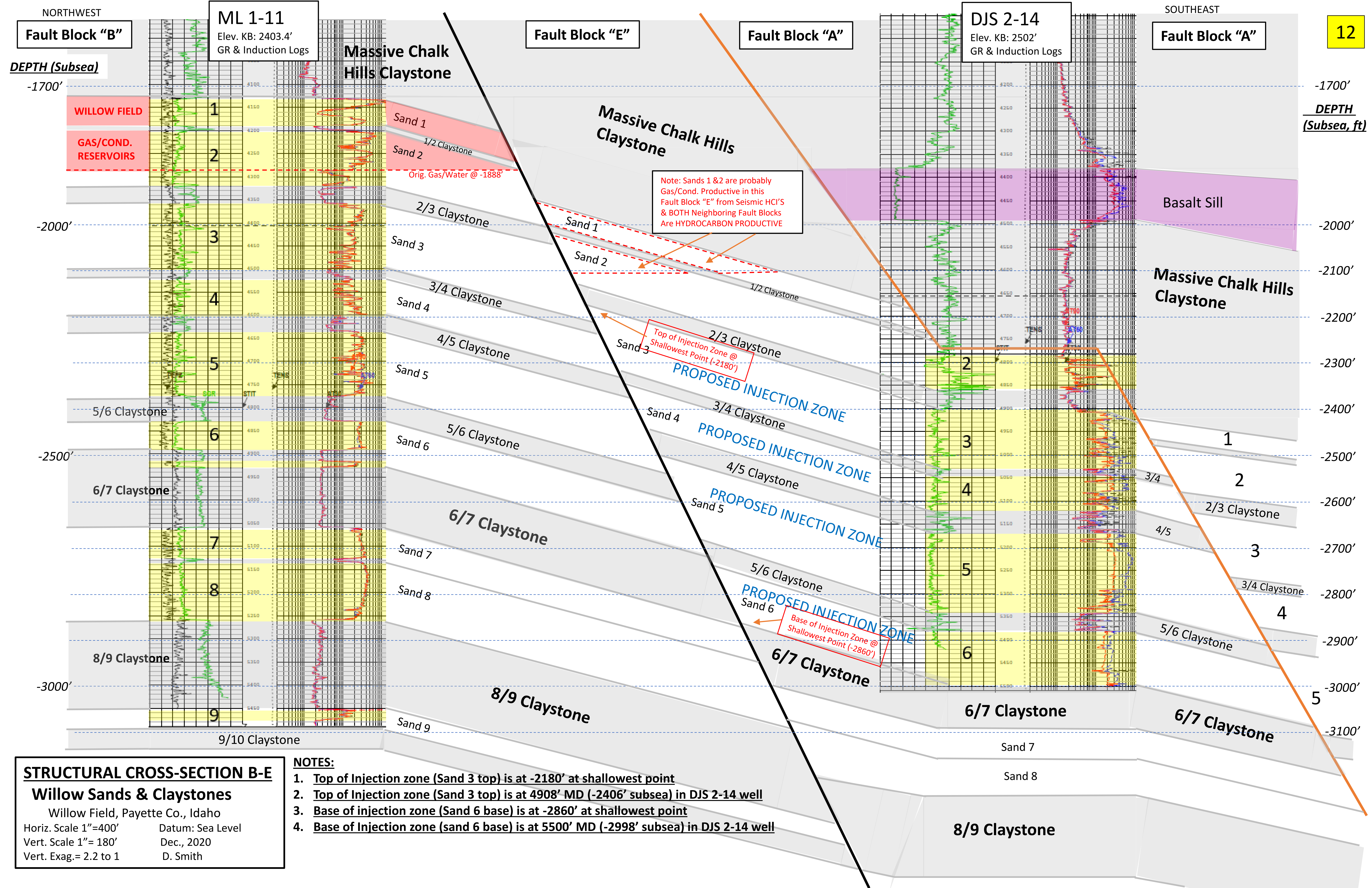
STRATIGRAPHIC CROSS-SECTION

ML #1-10 & ML #1-11 Wells

DATUM: Top Sand 3

Section shows deeper stratigraphy





STRUCTURAL CROSS-SECTION B-E

Willow Sands & Claystones

Willow Field, Payette Co., Idaho

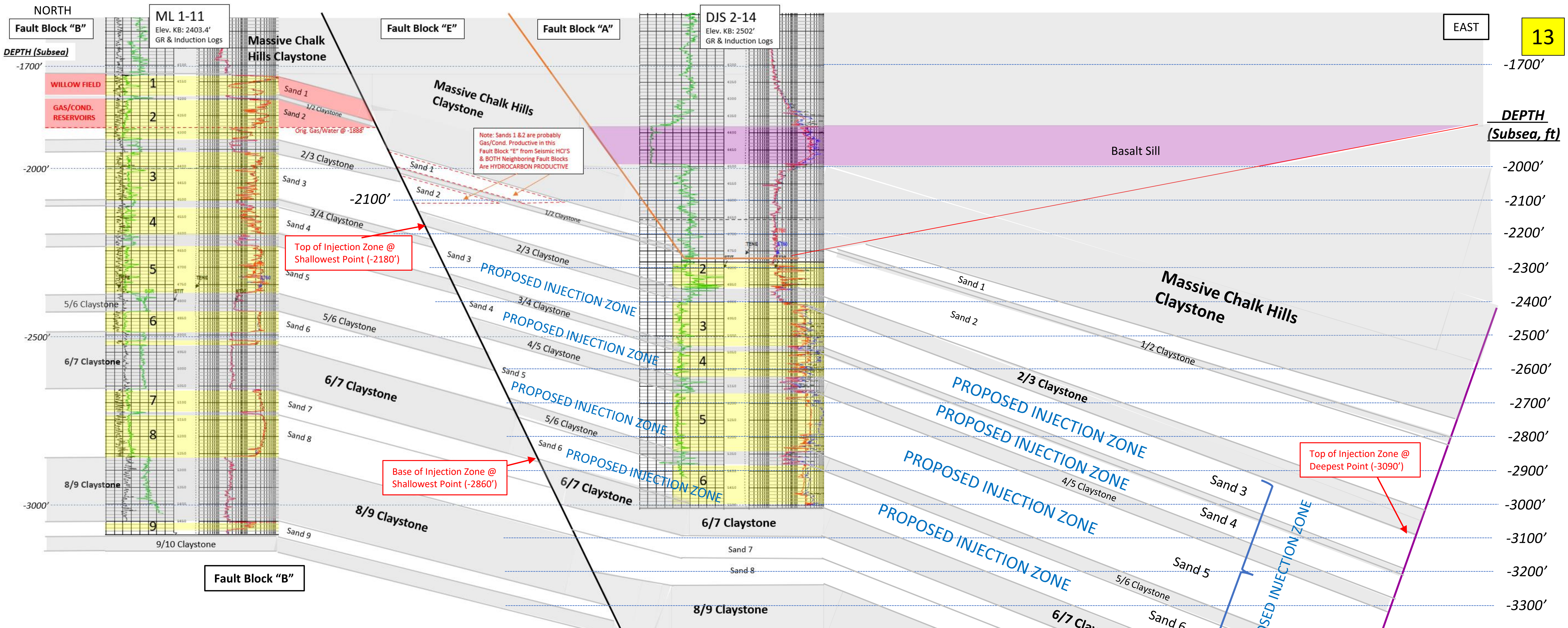
Horiz. Scale 1"=400' | Datum: Sea Level

Vert. Scale 1"= 180' | Dec., 2020

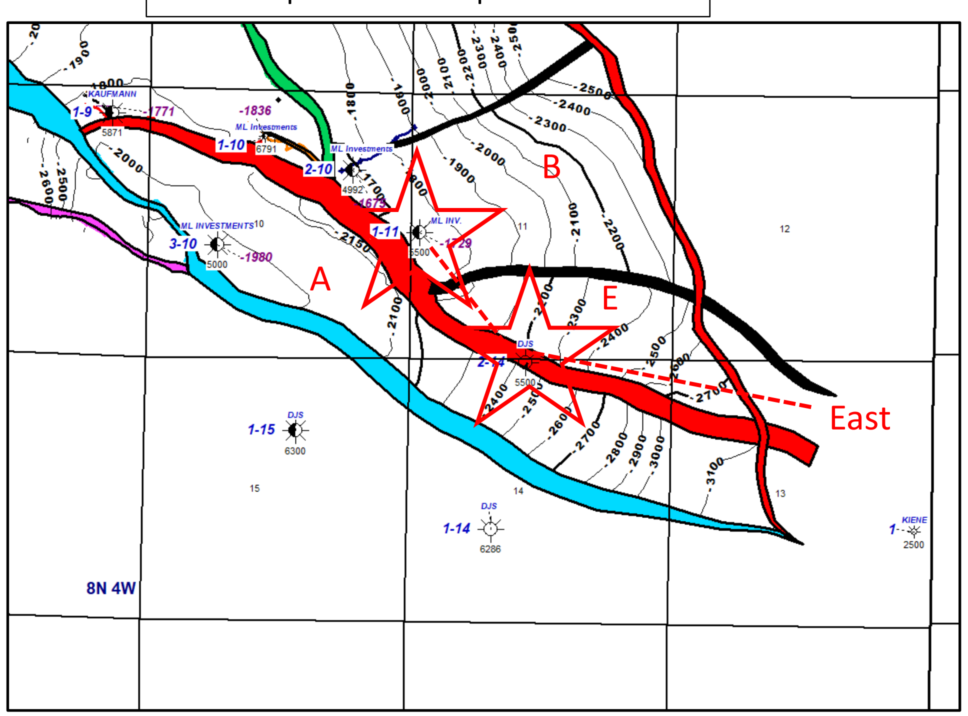
Vert. Exag.= 2.2 to 1 | D. Smith

NOTES:

1. Top of Injection zone (Sand 3 top) is at -2180' at shallowest point
2. Top of Injection zone (Sand 3 top) is at 4908' MD (-2406' subsea) in DJS 2-14 well
3. Base of injection zone (Sand 6 base) is at -2860' at shallowest point
4. Base of Injection zone (sand 6 base) is at 5500' MD (-2998' subsea) in DJS 2-14 well



Index Map: Structure Top Willow Sand 1



STRUCTURAL CROSS-SECTION B-E-EAST

Willow Sands & Claystones

Willow Field, Payette Co., Idaho

Horiz. Scale 1"=640' Datum: Sea Level
Vert. Scale 1"= 300' Dec., 2020
Vert. Exag.= 2.2 to 1 D. Smith

NOTES:

1. **Line of Section is Northwest to Southeast, then bends to the East (See Index Map)**
2. Shallowest and Deepest points of TOP and BASE of Injection Zone are noted on the section
3. **Known Gas Reservoir in Fault Block "B"** has Gas/Water contact @ -1888' subsea
4. **Probable Gas Reservoir in Fault Block "E"** has predicted Gas/Condensate Accumulation
5. 6/7 Claystone is lower confining zone